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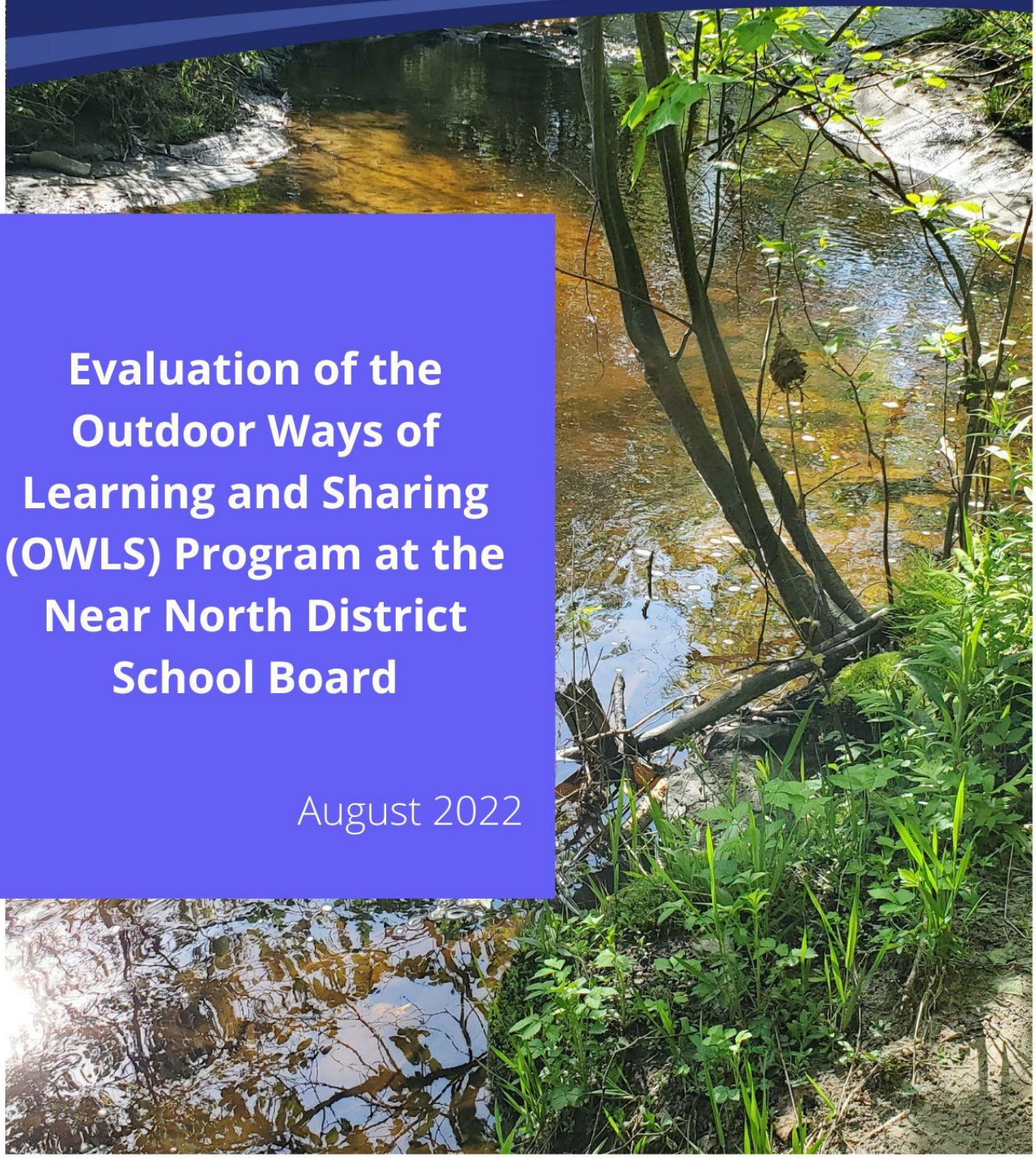

Evaluation of the Outdoor Ways of Learning and Sharing (OWLS) Program at the Near North District School Board

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BACKGROUND

From November 2021 to June 2022, the Near North District School Board (NNDSB) collaborated with the Canadian Ecology Centre (CEC) and the North Bay Parry Sound District Health Unit (Health Unit) to implement the Outdoor Ways of Learning and Sharing (OWLS) program in select primary and secondary classrooms.

The OWLS program offered curriculum-linked outdoor learning experiences to students and provided professional development for educators. This program aimed to:

- Benefit student learning, social and emotional development, and appreciation for the environment
- Build confidence, competence, and intent among school staff to teach the Ontario curriculum in outdoor settings

PROGRAM AT A GLANCE

- Seven schools participated in the OWLS program, including 9 classes (ranging from grade 1 to secondary lifeskills class) and approximately 230 students.
- The style and number of learning experiences differed for each participating class based on educator preference, feasibility, and scheduling.
- Nine classes participated in the OWLS mentorship program, which included of four-to-six sessions. The OWLS mentorship program consists of co-planning, co-teaching, and co-reflecting cycles between the classroom educator and a CEC facilitator, when possible.
- As part of the mentorship program, classes were offered a trip to the Canadian Ecology Centre at the end of the program; six of the nine classes attended the Canadian Ecology Centre.
- Each learning experience was approximately 1-2 hours long or a learning block.

Students learn about life cycles of insects and caterpillars and identifies them with Ontario

EVALUATION METHODOLOGY

The OWLS program was evaluated using pre- and post-program online surveys as well as in-session observations. Four classroom teachers completed the pre- survey and four classroom teachers completed the post-program surveys. Observations were completed by a community health promoters from the Health Unit who was present at the sessions.

The results of the pre-program survey indicated that all (4) classroom educators agreed that intentional outdoor learning provides the opportunities to maximize student outcomes on academic achievement, enhance personal development, and develop stewardship in nature.

This report focuses on NNDSB's evaluation priorities, specifically student outcomes and educator experiences, as outlined in the evaluation framework (Appendix A).

The photos in this report are used with permission from NNDSB.

PROGRAM OUTCOMES

There were many positive outcomes of the OWLS program for both students and educators.

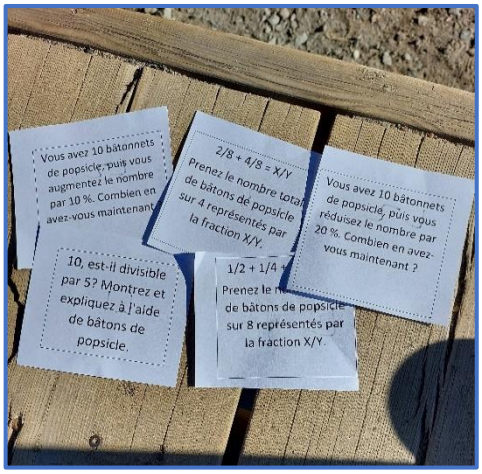
STUDENT OUTCOMES

Students developed executive functioning skills.

Students worked as a team during this bullring challenge, developing mental flexibility and communication skills while transporting a ball using string and tension only.

Through OWLS, students developed **working memory** as attention went up when outdoors as well as retention of concepts learned. Students build upon their **resilience** as they encountered challenges and the need to problem-solve. For example, when they experienced challenging weather (e.g., heat, rain), students learned they needed to adapt (e.g., sit in the shade when possible, stay hydrated, apply sunscreen, dress appropriately). Students also witnessed educators needing to adjust their plans based on the weather.

Students worked on **self-regulation** during the outdoor sessions while participating in the various tasks. A few students struggled to remain attentive during instructions and/or story time outside. Some activities lead the groups towards passionate environmental conversation, allowing the group to express feelings of anger, frustration and outrage, to focus on conflict resolution skills.



Students worked in pairs to find answers to these math problems.

The majority of students were very **excited** to be outside. Some students who normally do not actively participate in the classroom were **more involved** in outdoor learning activities. Overall, educators felt it was easier for students to remain **calm, grounded and engaged** in their learning.

Students capitalized on the sense of freedom that outdoor space provided. This perception allowed them to expand on their **collaboration, communication, and creative** abilities. By allowing students to choose their environment (e.g., independent versus group, location in forest/schoolyard), students were given autonomy, in turn building responsibility, self-trust and empathy towards others.

At the beginning of each session, students **assessed the hazards and risks** around them and were guided by the facilitator on how to consider safety when outdoors (e.g., what is a hazard? What is a risk? What are the risks of those hazards?). Involving students in the process of assessing and managing risks in their learning environment**, empowers** them to better understand how to mitigate risks and setting boundaries for all to enjoy the learning experience.

Students met learning goals and curriculum requirements through outdoor games and activities.

Students developed **literacy skills** through listening to oral stories, learning about sentence structures, grammar exercise, learning new vocabulary, sharing ideas, and participating in communication and descriptive games (Who am I?). Lessons for French Immersion classes were also facilitated in French.

Numeracy and science skills were developed through various activities, scavenger hunts and games. The learning themes included measuring, estimating quantities, using non standards of measurements, data collection for graphing, fractions, grouping, counting, animal classification, principles of flight, concepts of lift and thrust through air, life cycles, stages of metamorphosis, roles of predators and prey, basic survival skills and orienteering with map and compass.

*Students searched for **benthic macro invertebrates** to assess the health of water in a creek nearby. The group found crane fly, caddis fly, stonefly, bloodworm, dragonfly, and cray fish - **biodiversity**!.*

Students developed **physical literacy**. Teaching and learning outdoors effortlessly allowed students to move their bodies more and **reducing sedentary behaviours**. Active learning provide students the opportunity to develop their physical competence, motivation, confidence to engage in different forms of physical activity (e.g., running, skipping, hoping, climbing, jumping, throwing, agility, balance).

The act of learning outside built trust and comradery among students, which translated into **increased effort** and academic performance over this time period.

Students developed respect and stewardship for the environment.

By being outside, students had the chance to **connect with the environment** and **disconnect** with technology. Learning themes included ecological adaptive strategies of animals, the balance of biodiversity, learning about animals and insects with identification charts, understanding Canadian partnerships and connections to the greater world, importance of sustainability of common resources. In doing so, they had the chance to develop their appreciation for the environment, distinguish between “needs and wants” while learning how to be responsible, respectful, and caring towards the Earth.

Students enjoyed the program and were committed to the outdoor learning experience.

Students seemed to enjoy themselves during the OWLS sessions. They were engaged learners with a lot more wholesome dialogue between students and instructors with **better understanding** of the topic. Following the OWLS sessions, students **retention** of ideas improved and they often requested to repeat games learned. The students were **calmer and more balanced** during the rest of the day.

Student **participation was high** during OWLS sessions, and many students expressed enthusiasm and anticipation for their next opportunity to learn outside.

> "A lot more questioning and thinking from students (to each other and to instructor) during the outdoor sessions"
>
> Teacher 1

> "Post session, students were calmer and more balanced. They were able to work through problems instead of blowing up in classroom "
>
> Teacher 4

> "Students were able to make connections and noticed that a lot of information was cross-curricular"
>
> Teacher 2

EDUCATOR OUTCOMES

The OWLS program increased educators' knowledge and confidence in integrating outdoor education into their teaching practice.

Prior to the first CEC visit, educators were invited to attend an online meeting to review the school board's **risk management and safety protocols**.

Educators were often able to integrate their classroom goals by consulting with the CEC facilitator prior to an OWLS sessions. Following the completion of the program, all educators strongly agreed they had an **increased understanding and awareness** of outdoor education strategies. In addition, many indicated they had learned **new ideas** for meeting curriculum requirements outdoors.

OWLS inspired educators' intent to integrate outdoor learning into their future teaching practice.

Following the completion of the OWLS program, educators indicated they **intend to incorporate more** outdoor learning into their curriculum.

OWLS allowed educators to receive professional development through hands-on, outdoor experiential learning.

Educators collaborated, and problem-solved with the facilitators **in real-time** while students learned. By observing and engaging alongside CEC facilitators, teachers also increased their understanding of the experiential learning cycle. No supply teacher coverage was required during this professional development opportunity.

Educators enjoyed the program.

All educators expressed appreciation and gratitude for OWLS and hope to see the program **continue** in subsequent school years.

CHALLENGES

The school yard was filled with laughter as the students learned about the roles of predator and prey strategies to stay safe during this active game.

Students collaborated to gather ingredients and used their imagination to create 'meals' out of natural materials.

RECOMMENDATIONS FOR THE FUTURE

FOR SCHOOL ADMINISTRATORS

1. Communicate the value of outdoor learning within the school community to ensure **educators feel supported** and understood in doing it.
2. Put **processes** in place that facilitate the **use of the school's natural environment** (e.g., parental permission form signed at the start of the school year for use of the trails for local excursions).
3. Consider **environmental modifications** to make outdoor learning more feasible (e.g., plant trees for shade, support the build of outdoor classrooms near natural elements)
4. Allow the space for educators **to have conversations with other educators**. Collaborating with others in the school allows teachers to learn from one another and to capitalize on existing comfort levels, experience, value, and understanding of outdoor learning.
5. Have **resources and materials** for outdoor learning available for educators to use and consider the best way to transport these during different seasons (e.g., wagon for fall and spring, sleigh for winter).
6. For professional learning opportunities like OWLS, make sure there is **time allotted for co-planning** between the classroom educator and program facilitator to ensure alignment with expectations.
7. Understand that things **do not always go as planned** and encourage educators to adapt and try again in a different way.
8. Continue to foster **relationships with community partners** (e.g., Health Unit, CEC) that have aligned goals and interests in order to enable outdoor professional learning opportunities for educators.

FOR EDUCATORS

1. **Make use of your school's natural environment** (e.g., trails, puddles, field, forest, gardens) to do outdoor learning.
2. Build upon and foster **students' existing enjoyment** of the outdoors by continuing to seek opportunities to bring learning outside.
3. **Recognize the parallels** between outdoor learning and learning in the classroom. Just as there are challenges in a regular classroom, there will be challenges that come up with outdoor learning as well.
4. **Have conversations with other educators** to learn from one another and to capitalize on existing comfort levels, experience, value, and understanding of outdoor learning.
5. Consider **stocking extra outdoor clothing** items (e.g., socks, mitts, snow pants, hats, rain gear, extra layers) in case students are not prepared for the day's weather.
6. **Develop a routine** for outdoor learning and stick to it as best as possible. This gives students the chance to anticipate the time outside, making it easier as time goes on.

7. For professional development (OWLS), engage with facilitators prior to session to exchange ideas, goals and challenges to help **yourself prepare and to prepare your students** for the activities.
8. Be **open to variation** and understand that outdoor learning will not always look the same and will vary depending on the group, school policies and season.

FOR THE OWLS PROGRAM

1. Expand OWLS across multiple seasons, to allow both students and teachers the opportunity to learn outdoors in different seasons and weather conditions
2. For older students (and where schedule allows), gradually extend the time of each session to build on student engagement and active learning.
3. Attempt to schedule a meeting with educators to exchange ideas, activities, challenges, solutions while learning and discussing the theory behind these experiences.

Natural environments that support outdoor learning make teaching and learning outside more accessible to both educators and students.

Appendix A

NNDSB OWLS Evaluation Framework

The Near North District School Board in partnership with the Canadian Ecology Centre (CEC) will implement their *Outdoor Ways of Learning and Sharing* (OWLS) program in primary and intermediate classrooms intended to deliver outdoor learning experiences to students. This pilot program is designed to provide curriculum learning for students and professional growth for classroom educators. The North Bay-Parry Sound District Health Unit will support the evaluation of the pilot program in 2022. OWLS began in the Fall of 2019, however, the project was interrupted due to unions job action in 2019/2020 and the Covid-19 pandemic in 2020

Learning Objectives :

There are many benefits to spending time in nature and teaching the curriculum outdoors. The educational experiences that occur throughout the learning cycle can be documented, allowing for connections to many areas, including the following:

- **social/emotional development and executive function skills** (specifically response inhibition, sustained attention and emotional control)
- **development of literacy** (specifically oral language development, tier 2 vocabulary - words with a wide range of application that allow students to describe concepts in a detailed manner - i.e. equal, improve, etc. - developing the skills in service of reading comprehension and generating/communicating ideas in writing.)
- **development of mathematics behaviours,**
    - Comparing and ordering Quantities (multitude and magnitude)
    - Estimating quantities and numbers
    - Decomposing wholes into parts and composing wholes from parts.
- **environmental stewardship** (stronger connection to nature, increased environmental values and pro-environmental behaviours.

The **outreach program** consists of two experiences in which CEC educators model outdoor learning methods for classroom teachers. The **mentoring program** consists of 4-6 learning experiences that allow CEC educators and classroom teachers to engage in a cycle of co-planning, co-teaching and co-reflection. As part of the outreach and mentoring programs, CEC educators will demonstrate how to integrate the reflective opportunities of the three parts of the experiential learning cycle (participate, reflect, reinvest). Each experience will be approximately one learning block in length and will take place primarily on school grounds.

Evaluation Outcomes:

Educators experience:

a) Program influenced educator beliefs about outdoor learning.
b) Program impacted educator practices related to outdoor learning.
c) Program influenced educator knowledge/learning.
d) Program influenced educator's confidence in teaching outdoors
e) Program is sustainable throughout the school year
f) Program was implemented safely.

Student experience:

a) Program impacted student learning (literacy and math).
b) Program impacted student behaviours (executive functioning).
c) Program impacted student appreciation for environment/nature.
d) Program was enjoyed by students.

Data Collection Strategies:

Each participating group will be assigned an ID number associated with the school/class/teacher to track collection of assessments.

1. **Pre-program survey** to be completed by classroom educators prior to first session
   Purpose: baseline assessment of current educator practices, learning goals and anticipated student outcomes

Questions:

a) How many times within a 5 day cycle do you currently take your learning outside? [0 times, 1-2 times, 3-4 times, 5 or more times]
b) Do you currently experience any challenges or barriers in taking learning outdoors?
   i) Yes No
      (a) If yes, please expand.
c) Please indicate your level of agreement with the following statements about the potential impact of outdoor learning on student outcomes.
   i) Intentional outdoor learning provides the opportunity to optimize academic achievement.
   ii) Intentional outdoor learning provides the opportunity to enhance personal development strategies (e.g. leadership, critical thinking, spatial skills).
   iii) Intentional outdoor learning provides the opportunity to demonstrate and develop stewardship in nature.
d) What are your educator learning goals in participating in this outdoor learning program? [open ended]
e) What change(s) do you hope to see in your students by participating in this program? [open ended]

2. **Post-program survey** to be completed by classroom educators shortly after the last session
   Purpose: To understand educator perception of student learning, to understand educator knowledge, confidence and intent to continue with outdoor learning

   Questions:

a) What key observations in classroom behaviours/interaction did you notice:
   i) During sessions?
   ii) Post sessions (throughout remainder of day)? (open ended)
b) What key observations in student learning did you notice:
   i) During sessions?
   ii) Post sessions (throughout remainder of day)? (open ended)
c) Please indicate your level of agreement with the following statements about the potential impact of outdoor learning on student outcomes.
   i) Intentional outdoor learning provides the opportunity to optimize academic achievement.
   ii) Intentional outdoor learning provides the opportunity to enhance personal development strategies (e.g. leadership, critical thinking, spatial skills).
   iii) Intentional outdoor learning provides the opportunity to demonstrate and develop stewardship in nature.
d) After having completed the program, I have the knowledge required to continue with outdoor learning. [agreement scale]
e) After having completed the program, I have the confidence required to continue with outdoor learning. [agreement scale]
f) After having completed the program, I intend to incorporate more outdoor learning into my curriculum. [agreement scale]
g) If this program was to be repeated, what key change would you make?

h) Is there anything else you would like to share about your experience participating in the outdoor learning program that was not captured in the evaluation?

3. In-session photographs (TO BE COMPLETED AT THE DISCRETION OF NNDSB)

- Completed by: Educators
- Time point: throughout weekly sessions
- Purpose: to document the outdoor learning experience; to compliment the other evaluation strategies

4. In-session observation (TO BE COMPLETED AT THE DISCRETION OF NNDSB)

- Completed by: Community Health Promoters
- Time point: during each weekly session (4x per school); if feasible
- Purpose: to observe and document student learning (interactions, reactions, behaviours, thought process related to numeracy and literacy concepts)

Observation Template:

Teacher: **ID Number/grade:**
Session#: **DATE/time:**
Class size/adult ratio: **Weather conditions:**
Class assignment/unit:

Please note your observations and reflections about the **student learning experience** in the following areas:

Executive Function Skills *(e.g. response inhibition, sustained attention, emotional control)*	**Literacy Skills** *(e.g. tier 2 vocabulary)*	**Mathematics Behaviours** (e.g. comparing, estimating quantities, wholes and parts)	**Environmental Stewardship** *(e.g. appreciation for nature)*

NOTES: