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The Prairie Habitat Garden Project: Naturalizing to Native Prairie for Improved Learning and Engagement
Department of Educational Foundations, University of Saskatchewan

Project Summary
Part I. Description

Participating organizations

- Department of Educational Foundations, in the College of Education right beside the Prairie Habitat Garden
- Members of the Department of Curriculum Studies, in the College of Education;
- The Sustainability Education Research Institute (associated with the Department of Educational Foundations);
- The Aboriginal Education Research Centre (associated with the Department of Educational Foundations);
- The Meewasin Valley Authority;
- The Native Plant Society of Saskatchewan;
- Wild About Saskatoon (which hosts the annual one week long Nature City Festival).

Background or problem statement

Less than 15% of native prairie remains in Saskatchewan. This means that prairie birds, amphibians, and many prairie plants are endangered. Preserving fragmented prairie spaces in cities will not resolve this problem. By profiling the beauty of native prairie, and demonstrating its ecological services, we hope to perhaps support the reduction of further destruction and maybe invite reclamation. Another problem in Saskatchewan is racism, against Indigenous peoples for the most part. Too many people, despite the Truth and Reconciliation Commission, have almost no knowledge of First Nations ways of knowing and perspectives, or of the rich culture, and history of these peoples and this land. By including Indigenous features in the garden, we hope to have a place where Indigenous people can meet, and where mainstream people can learn to value a different way of being in the world.

This project addresses the need to connect people to their ecosystems and to Indigenous cultures, while they are still very young. Research has demonstrated that outdoor play in natural areas contributes to children's emotional and physical health, helps them to understand their importance in maintaining ecological biodiversity, and enhances their learning of ecological concepts.

General description of the project

This project has allowed us to remove weeds, plant more native plants, build more Indigenous features (star, chicken lodge, and Celestial Circle, as well as signage), add more environmental features (bee hotel, Indigenous bee hive, bird feeders, swale, bridge over the swale), and design for children to feel invited to be active and creative with various natural and added materials (log post fence, horizontal logs, stumps, sticks, rocks, sand, pails, boards, chalk boards and chalk, xylophone bars, etc.). Indigenous perspectives and ways of knowing are featured and interpreted in signage, and are integrated into all workshops and lessons. The environmental features demonstrate actions people can take on their city lots, or what schools can do in their school grounds, to support biodiversity. The loose parts and structures in the garden support children's active engagement in the outdoors. Workshops have been hosted for teachers and students, and lessons have been conducted for different subject areas, all including nature and Indigenous ways of knowing and perspectives. The lessons that have been taught will be summarized in writing and posted to the garden website for supporting learning in nature.

Description of outcomes and follow-up
For all the new additions to the garden, public workshops were hosted; as well, groups of kindergarten to grade 12 students with their teachers learned curricular information while adding to or promoting the garden. A grade 12 art class came for a tour, and the students have now created murals for the garden. Early learners and elementary students visit the garden regularly, either for booked tours, or are led by their teachers. The public and our partners have been involved in most work bees, such as designing and planning the garden; weeding and planting; installing mulch, crusher dust, swale rocks, log post fence. The general public attended the building of the Celestial Circle. These work bees have raised the profile of the Prairie Habitat Garden and support our goals. Our partners have supported school workshops in the garden (Wild About Saskatoon – Nature City Festival), removal of invasive weeds (Meewasin Vally Authority [MVA], Native Plant Society of Saskatchewan [NPSS]), planting native plants (MVA, NPSS, Sustainability Education Research Institute), installation of Indigenous features (Aboriginal Education Research Centre). Our partners, thus, have also promoted the garden and the garden goals.

The major products are: the Prairie Habitat Garden; teaching materials which will be on PHG website; movie on building the garden - to be made this term; masters project on maintenance of fragments of native prairie.

Project Summary
Part II. Analysis

Successes
The most significant successes have been that the word about the garden is getting out; four schools that are taking up similar work and are contacting us – both to share their ideas as well as to build upon our experience. Teachers from different schools have also contacted the project lead seeking access to the garden. The children visited the Prairie Habitat Garden, and began generating ideas for how to add more materials to their forest. More and more people are interested in bee habitat, and the garden is exemplary in demonstrating how to leave materials and spaces for bees to eat, thrive, and hibernate. There is much media attention about indigenous bees right now, and people are learning that indigenous bees require indigenous flowers. Thus, there is more interest in planting indigenous flowers. The Prairie Habitat Garden has become a link to the Native Plant Society of Saskatchewan, which can support people in growing native plants. Having two masters students from the School of the Environment has meant that more information can be shared on the Prairie Habitat Garden website.
Our experience with this project shows, that the garden does support the ongoing change in sustainability attitudes.

Challenges
The main challenge was dealing with complicated administrative procedures.

Another challenge is the invasive grasses. We have managed to rid the garden of wormwood, feral parsnip, and European buckthorn and will be able to stay on top of any that return. However, it is much more difficult to get rid of crab grass, quack grass, brome grass, and lawn grass. Most studies attempting to rid large areas of invasive grasses have been unsuccessful. However, in this smaller space, we attempted two approaches. One was to cover one area with a tarp; after two summers of being covered, the area is weed (all plant life) free. We will remove the tarp and plant native plants, densely, in this area. In the other areas, we have been digging out the grasses by hand. This does reduce them significantly, and, we hope, will result in getting rid of them completely within five years. Once the invasive grasses are gone, we will plant native grasses, so that the ground will be densely planted and therefore less attractive to weeds (which prefer disturbed ground).

Lessons Learned
We have learned that, not only is it possible to build a place that is beautiful, environmental, with Indigenous features, and for children's play, but that it is cheaper to build a natural play space than to build manufactured "creative" play structures. As well, research suggests that natural play spaces are more interesting to children, and can accommodate a greater age range and a greater number of students.

On the more worrisome side, we have learned that children's play often involves moving rocks that are part of Indigenous features. The children don't notice the big picture that the rocks have made, and thus, they take the rocks to make their own structures. More signage will support teachers so they can advise the students about which rocks they can play with and which to leave alone. The construction zone area should support this better, because children will learn that this is a place for moving materials as they wish.

Older students, standing in one place together for a while, tend to damage native plants. As the plants grow deeper roots, this will be less of an issue. Also, two meeting areas, one a log bench circle and one a picnic table, with crusher dust as the substrate, were installed to mitigate damage to plants. With people meeting in these areas, and then rarely standing in large groups in the rest of the area, the damage to plant life has been reduced.

When children and older students are together in the garden, the children teach the older students how to play. Older students seem to have forgotten how much fun it can be to run and play in a natural area.

What Next?

- Create signage, for interpreting Indigenous features, and for inviting inquiry into ecological features;
- Complete a movie to demonstrate the process for designing and building the garden, adding in details regarding the lessons learned;
- Invite more faculty staff from the College of Education to use the garden for their teaching;
- Invite more departments at the university to access the garden for their lessons. For example, the College of Medicine could visit the garden to learn about native plant medicines as well as the holistic healing approach that kept Indigenous peoples healthy;
- Write summaries of lessons and workshops to support teachers who wish to carry out activities in nature near their schools;
- Provide ongoing maintenance of the garden to remove invasive grasses, and keep out those species that have (for now) been eradicated;
- Continue to invite teachers and their students to learn in and about the Prairie Habitat Garden, and continue to support all schools which wish to build similar areas on their school grounds.

For more information about the project please contact:

Dr. Janet McVittie
Department of Educational Foundations, University of Saskatchewan
O: 306 966-7582
F: 306 966-7644
janet.mcvittie@usask.ca