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The effect of nature-based learning on primary-aged students

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1 Introduction

- Research suggests that nature-based learning can:
 - lower stress and anxiety levels (Wells & Evans, 2003)
 - increase energy, fitness, self-esteem and overall well-being (Cooper et al., 2010; Kimbro et al., 2011)
 - improve focus and academic achievement (Wells, 2000)
- This study is part of a larger collaborative research project between the Ottawa-Carleton District School Board, Ottawa Forest School (OFS) and the Faculty of Education at the University of Ottawa.
- The aim of the overall study is to explore the impacts of nature-based learning on student achievement and well-being in primary-aged students from a teacher perspective. In this particular study, the frequency of regular and repeated learning experiences in nature are being analyzed.
- Eight of the 10 participating classes are attending six consecutive weeks of nature-based learning experiences at the OFS (i.e. 1 day/week for 6 weeks). The remaining two classes are engaged in 35 consecutive weeks at OFS (i.e. 1 day/week for 35 weeks).
- This study could have a significant impact on emerging district policy and procedures in relation to nature-based learning.

2 Methodology

Once ethics approval was granted from both the University of Ottawa and the Ottawa-Carleton District School Board, participating OCDSB and OFS teachers were sent letters inviting them to collaborate in the study. 13 teachers and 2 school administrators participated in this study, each of whom completed an on-line questionnaire.

Lisa Glithero then conducted one-on-one interviews with the participants, ranging from 30 to 60 minutes in length. The interviews were semi-structured, loosely using a set of questions to guide the interview process. The interviews allowed the participant's responses to the on-line questionnaire to be explored more deeply.

The interviews were transcribed and analyzed, determining common themes and responses that emerged among the participants' responses

3 Results

The following are direct observations of, and excerpts from, study participants' responses to the interview questions.

Theme	Participants' Observations
<i>Interpersonal Relationships/Independence</i>	<ul style="list-style-type: none"> - 35 consecutive weeks allows the students to "know how to stay safe around the fire, in the forest, they know to come back. They monitor each other's safety, which not necessarily would happen with a group that's only here 6 weeks" - Students are taking on leadership roles and learning how to explain their ideas to others so that everyone understands the expectations of their idea/game. - Students are learning how to be more patient with each other, they learn how to explain things in different ways if someone's not getting it - Students are making safe choices and participating in risky play
<i>Inquiry</i>	<ul style="list-style-type: none"> - Staff said that "because they (students) keep coming here, the interest keeps getting renewed, they keep asking the questions or having more and so it keeps it (inquiry) rolling naturally" - "being able to think about something themselves and come to their own conclusions about something (...) then revisit it again later and perhaps reevaluate what they thought"
<i>Curriculum Connections</i>	<ul style="list-style-type: none"> - French vocabulary is transferring to the forest - Students will add the numbered signs at OFS - Learning skills, such as emotional intelligence, and collaboration are improving - Whatever happens at FS happens, and teachers link it to the curriculum later in the classroom - Teachers can frame questions in a certain way in the forest to hit particular parts of the curriculum
<i>Academic Achievement</i>	<ul style="list-style-type: none"> - Students are able to follow their passions and interest and students are learning that what they are interested in is okay, and that "we're (adults) not measuring it, we're supporting it". - The students' academic motivation increase due to their new relationship with their teachers - When students are offered options, they "feel empowered and when they feel empowered, they feel respected. They feel strong and confident and able"
<i>Relationship with Nature</i>	<ul style="list-style-type: none"> - "I love it because it's making the forest part of their every day and bringing their every day into the forest, as opposed to it being a completely separate." - Students gain a sense of ownership/relationship with the forest "that lets them move through it differently then they did when they first started coming" - Students shared with OFS staff that they would like to get outside with their families - OFS educators has gone off-site to schoolyards to run their program and there has been a need for more prompting, but once the students get going, they act similar to the students who attend OFS

4 Conclusions

The following conclusions are based on the participants' responses specific to the interview data.

- Nature-Based learning, based on this limited study, builds student confidence, self-awareness, and self-esteem based on the participating teachers' observations.
- Leadership and risk-taking behaviour is also frequently observed by most participating teachers.
- Similar to the larger body of research on nature-based learning, students appear more calm, happy, focused, collaborative and empathetic when learning in the forest, as opposed to the classroom, according to study participants.

This study has supported the larger body of research stating that nature-based learning positivity affects student achievement and well-being. In order to make further conclusions, more data is required.

References

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