

From forest to classroom: a school district's exploration of the impacts of nature-based learning on primary-aged students

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1. Introduction

In recent years, a wealth of research has been published on the benefits of outdoor, inquiry, and risky play-based learning. These benefits include decreased levels of anxiety and stress (Faber Taylor & Kuo, 2011; Wells & Evans, 2003); increased energy, fitness and self esteem (Cooper et al., 2010; Kimbro et al., 2011); and improved focus and academic achievement (Blair, 2009). This renewed push towards outdoor learning disrupts the more traditional centralized classroom approach common in today's schools. In 2013, the Ottawa Carleton District School Board (OCDSB) and Forest Schools Canada (FSC) implemented a pilot designed to provide nature-based learning experiences for select primary-aged classes from the school board. The school board was interested in exploring learning outcomes of participating students with specific regard to student achievement & student well-being from the perspective of teachers. In 2015, OCDSB & FSC have partnered with the University of Ottawa and Education Faculty professor, Lisa Glithero, to conduct a qualitative study that will look into this pilot initiative, and its various effects on both student learning and the professional development of participating teachers. This study attempts to answer three key questions:

1. What is the impact of forest school/nature-based learning on primary-aged students with particular regard to student achievement and student well-being?
2. Are different learning outcomes achieved based on the frequency of the nature-based learning experience?
3. What are strategies used by participating teachers to sustain the observed outcomes of the forest school learning experience back in the classroom/schoolyard?

2. Methods

The study centered around two key methods of data collection: 1) online questionnaire filled out by participating teachers at the onset of participating in the Forest School program; and 2) one-on-one semi-structured interviews with participating OCDSB teachers and Forest School educators. This UROP project focused on the preliminary findings from the online questionnaire data only. Questions focused on four key areas: 1) general information about the teacher; 2) previous views of and experience with outdoor education; 3) attitudes and perspectives on different aspects of nature-based learning such as risky play; and 4) learning-based play in relation to student achievement, engagement and well-being. After participants completed the questionnaire, common themes were identified and discussed.

3. Results

This study is ongoing, and as such, these results are preliminary. At the moment, 14 participants (out of a total 20) have completed the questionnaire. However, early results show strong patterns and commonalities that address the three central research questions. Highlighted below are some key ideas that were drawn from participants' responses:

- Participants in the study all had varying levels of experience with nature-based learning, but all shared an interest in exploring it further
- Support and interest from the school board and school administration is key when implementing a nature-based learning program
- Greater and more varied personal experiences resulted in a wide range of increased student achievement: vocabulary in French as a second language students (FSL), creativity and accuracy in visual arts projects, comprehension of various curriculum components linked to experiences in the nature-based learning program
- Students were more confident, curious, engaged, and took greater ownership over their own learning during and after their nature-based learning experiences
- Most students displayed excitement before the program and exhibited calm and happiness after
- Measuring student achievement is especially difficult with nature-based learning – anecdotal evidence and observation were most common & valued by teachers
- Difficult balancing the proven benefits of things like risky play and nature-based learning with board liability issues
- Much of the difficulty with implementing nature-based learning programs comes from parents and administration, not students
- Inexperience with nature-based learning is one of the key barriers stopping more teachers from becoming involved
- Nature-based learning provides links to the curriculum from a wide range of subjects (visual art, music, physical education, math, science, language, dance)

References

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4. Discussion

It is difficult to assess any conclusive results from this study at this preliminary stage. However, early findings suggest similarities with a much larger body of research in this area. In a society that is becoming increasingly concerned with the prospects for our future generations, nature connectedness remains as one of the best predictor of well being, and happiness (Zelenski & Nisbet, 2012). Nature-based learning benefits our students intellectually and emotionally, while providing challenging, inquiry-based learning opportunities. Risky play, and learning based play are two important aspects of learning that our students are often lacking in a traditional classroom setting. This study has shown through anecdotal evidence and direct teacher observation that student behaviors and attitudes benefit from repeated time spent in nature. This study has highlighted the difficulty for teachers to 'quantify' the effectiveness of programs such as the OCDSB-FSC pilot. The term "student achievement" itself must be better defined and more widely accepted before we can attempt to reveal all of the far reaching benefits of programs such as this. If we think of student achievement strictly as grades, this study has produced no hard evidence to support the claim that the program increases student success, although many of the participating teachers would argue otherwise. When we think of student achievement more holistically and in relation to well-being however, early findings from this study have shown that the nature-based learning opportunities offered by the Forest School program, raises student achievement by addressing components like: confidence, self-esteem, leadership, initiative, risk-taking, collaboration, engagement and curiosity. The limited scope of this study at this early stage prevents any real exploration of the second and third key research questions at this point. It should be noted again that this section of the study encompassed only the questionnaire data. By the conclusion of the study, we will be better equipped to offer a deeper analysis and richer discussion on our key research questions.



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