The effects of outdoor learning on student motivation, engagement and Performance in the environmental science classroom.

### Research Focus Questions
- What is the impact of education outdoors on student engagement, motivation and achievement?
- How do students perceive indoor lessons compared with outdoor lessons in terms of engagement, motivation and performance?
- Whether or not consistent exposure to the outdoors can be incorporated into the classroom on a daily basis?
- How will this action research project affect the way I teach outdoor science in the future?

### Methods
Students engagement, motivation and performance were measured for a unit where students had a large component of instruction completed outdoors. This was compared to the performance of a unit that took place in the traditional classroom setting with laboratory based activities rather than activities outdoors.

### Data

<table>
<thead>
<tr>
<th></th>
<th>Class A Average</th>
<th>Class B Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test Average</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>Post Test Average</td>
<td>50%</td>
<td>40%</td>
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</tbody>
</table>

Figure 1: Graph shows the pre and post test results for the two classes studied. (N=37)

### Student Quotes
- “Going outside keeps me more focused, the atmosphere is better.”
- “Interaction with the content.”
- “More of a positive difference, outside I was more engaged because I “had” to be. In class I can just sit there and daydream, going outside I couldn’t daydream because I was actually doing the activity.”

### Analysis
- Students performance growth was not determined to be a result of outdoor education.
- Student interviews and survey results yielded the strongest affinity for working outdoors in a hands-on setting.

### School Information and Value
- Murdock High School is a Title 1 school that contains many students that lack the desire and resources to pursue higher education. This study did not show a direct correlation to the outdoor classroom and academic success. This study did show that students are most hindered by attendance issues and the ability to complete and turn in work. Buried in the interview and survey data is the idea that the engagement and motivation did change for students. This could be an avenue for increasing attendance and getting students motivated to perform.

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