

The Timelessness of Science: Multidisciplinary Inquiry through Archaeology

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Introduction

The archaeology after-school program, geared towards rural middle school students, explores the ability to teach STEM through archaeology. The multidisciplinary nature of archaeology makes it a useful vehicle for teaching a variety of STEM disciplines (e.g., biology, geology, ecology, zoology, physics, chemistry, mathematics, etc.). Its compatibility with hands-on activities, deep thinking skills, and scientific reasoning matches STEM learning goals.

Indigenous Voices

To provide a non-Western perspective, Indigenous leaders presented Indigenous concepts on the linkage of objects used in the past to the living landscape and living people.



Discussion

- Youth had opportunities to participate as science learners through an archaeological and Indigenous perspective.
- Understanding of science concepts and practices was enhanced.
- Small group research projects engaged students in a scientific method.
- The program highlights the application of science concepts and practices through archaeological and Indigenous knowledge.

Data

- Field notes of the after-school program observations.
- Student focus groups.
- Interviews with after-school educators/archaeologists.
- Content analysis of the planned activities.

Research Questions

To what extent does the program:

- support/engage youth as STEM learners?;
- shape/shift youth's identity as a STEM person?;
- enhance the pedagogical practices of University students and professional archaeologists?;

The Atlatl

By: Alex Medovich 8th, Cameron Wallace 8th, Gabe Sadtler 7th, Grady Leonard 6th

Research Question
What shape and size of the atlatl and person throwing is the best for distance?

Methods and Materials
To conduct this experiment, we used:
• 2 different atlatls
• 3 packs of atlatl spears (6 ft)
• 4 different sized people

Introduction
An Atlatl is a mechanism that uses leverage and force to propel a dart/spear a lot farther than if you throw it free hand. The atlatl acts as an extension of your arm and an additional lever when throwing. Atlatls also come in different shapes, and with different people throwing them. So we wanted to test out what variables would make an atlatl more effective for distance throwing.

Results
After running this experiment, we got very interesting results.
The results of the first section of this experiment ended up with a minuscule difference. The atlatl with the finger groove, and the least support, ended up launching the spear farther than the atlatl with the curve for someone's entire hand to fit in. The one with less support was able to throw a spear 35.32 meters, while the other with the hand curve was able to launch the spear 35.5 meters.

Discussion
So in the first part of experiment we tested an atlatl with less support compared to an atlatl with more support, and the atlatl with less support performed better. We think this atlatl performed better because it was more comfortable to hold. An atlatl with more support will have more "add-on" to it, making it more heavy, even if it is a slight difference. Also the more "add-on" that an atlatl has the less comfortable to hold, therefore messing with the performance of the throw.

Person

| Person | Height | Arm Length | Longest Throw |
|---------|--------|------------|---------------|
| Cameron | 1.82m | 75cm | 22.3m |
| Alex | 1.73m | 70cm | 32.9m |
| Gabriel | 1.75m | 70cm | 24.1m |
| Grady | 1.53m | 60cm | 26.7m |

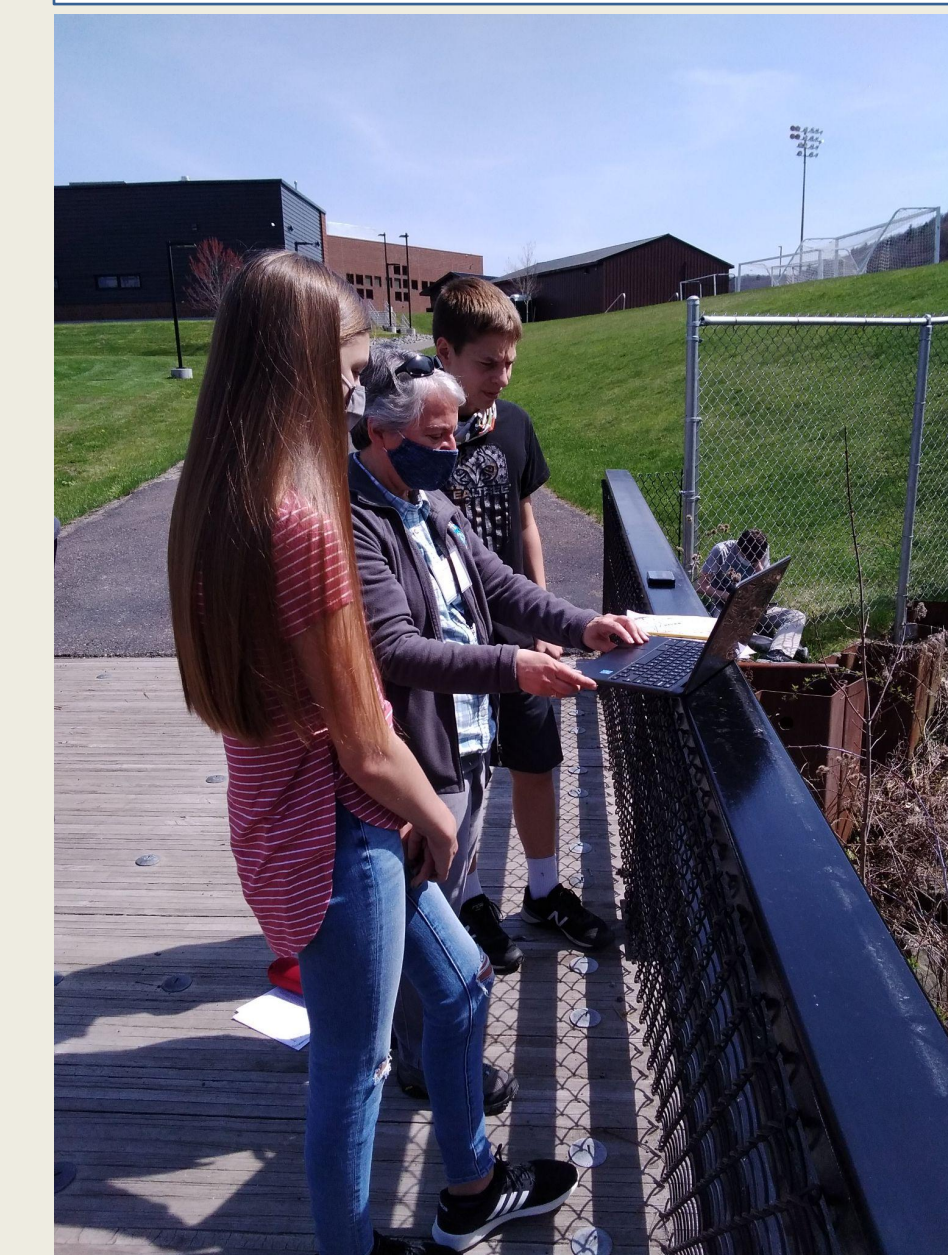
Distance of 2 Different Atlatls

| Atlatl | Distance |
|---------------------------|----------|
| Atlatl with finger groove | 35.32m |
| Atlatl with hand curve | 35.5m |

Conclusion
In conclusion we learned that the atlatl with the least support (bottom) and the person that is taller and has more practice is the one able to throw the dart farther.

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Scan here to see our project!



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<https://archaeolessons.com/>

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