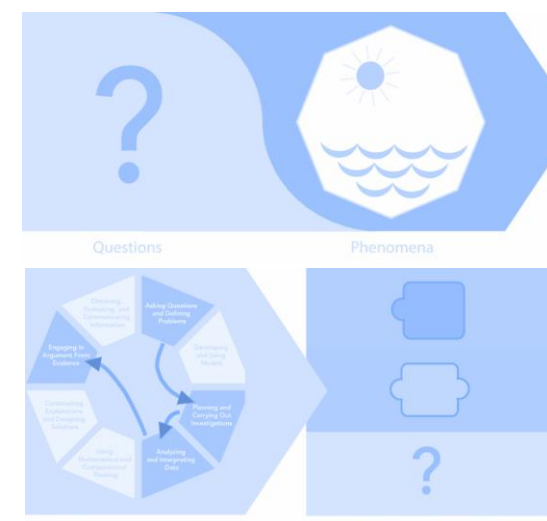
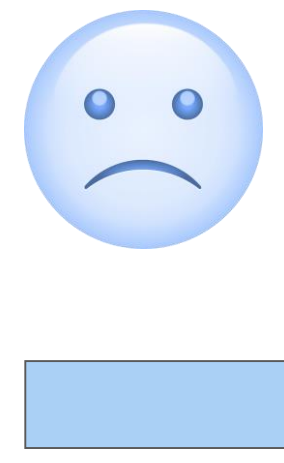
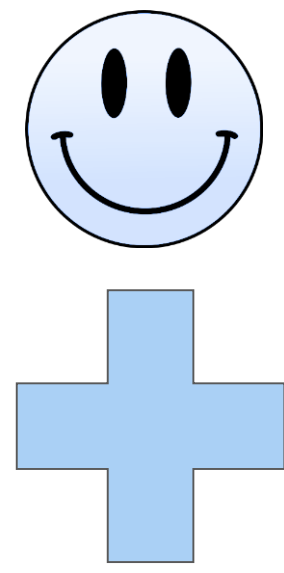


Why NGSS Storylines?

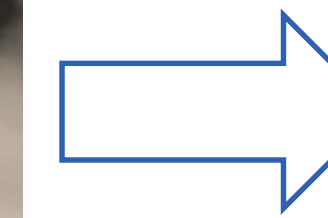


How does the implementation of NGSS storylines affect seventh grade student engagement, motivation and attitude toward science?



Jennifer Lifnitz
Bellefonte Area Middle School Bellefonte, PA

Non Treatment vs. Treatment Unit

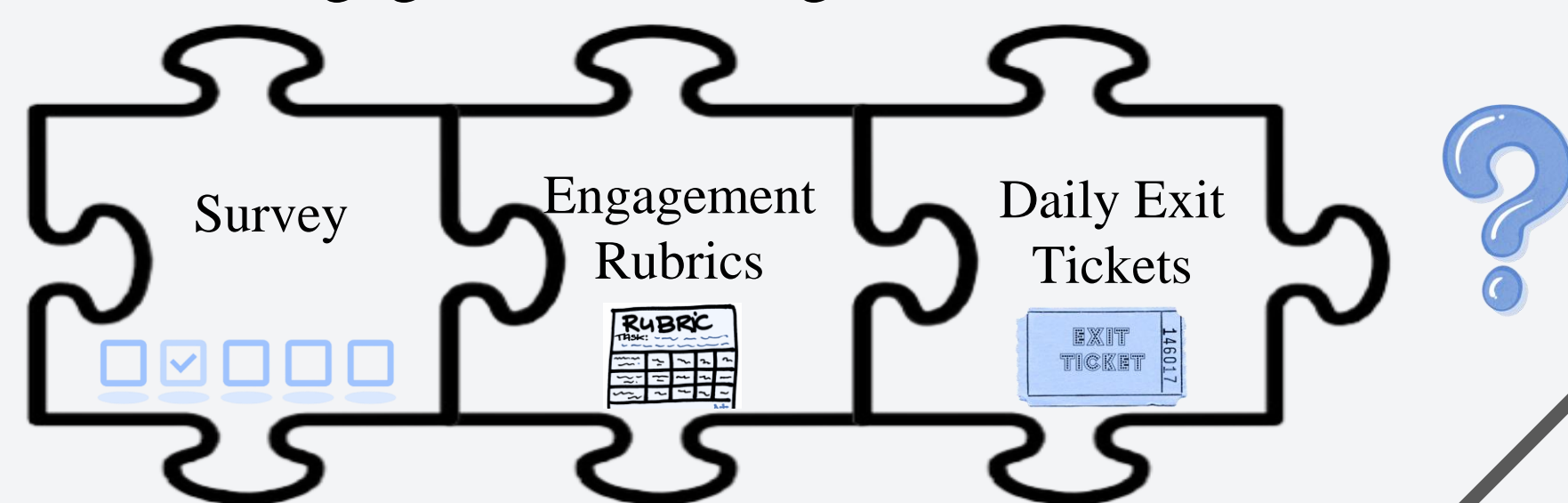


Isolated Unit:
Characteristics of Life

Storyline Unit:
What goes on in Usain Bolt's body when he runs a race?

Engagement

What is the effect of the implementation of NGSS storylines on engagement in 7th graders?

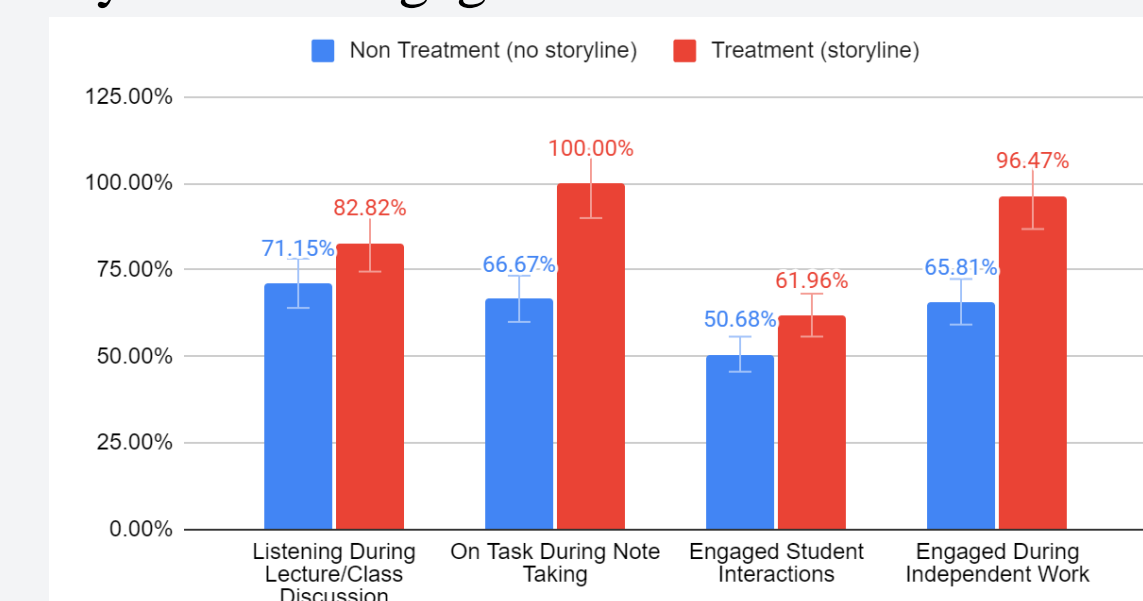


Claims:

- ❖ Behavioral engagement slightly increased when students were taught through NGSS storylines.
- ❖ Emotional engagement, cognitive engagement and agentic engagement did not improve when teaching through NGSS storylines.

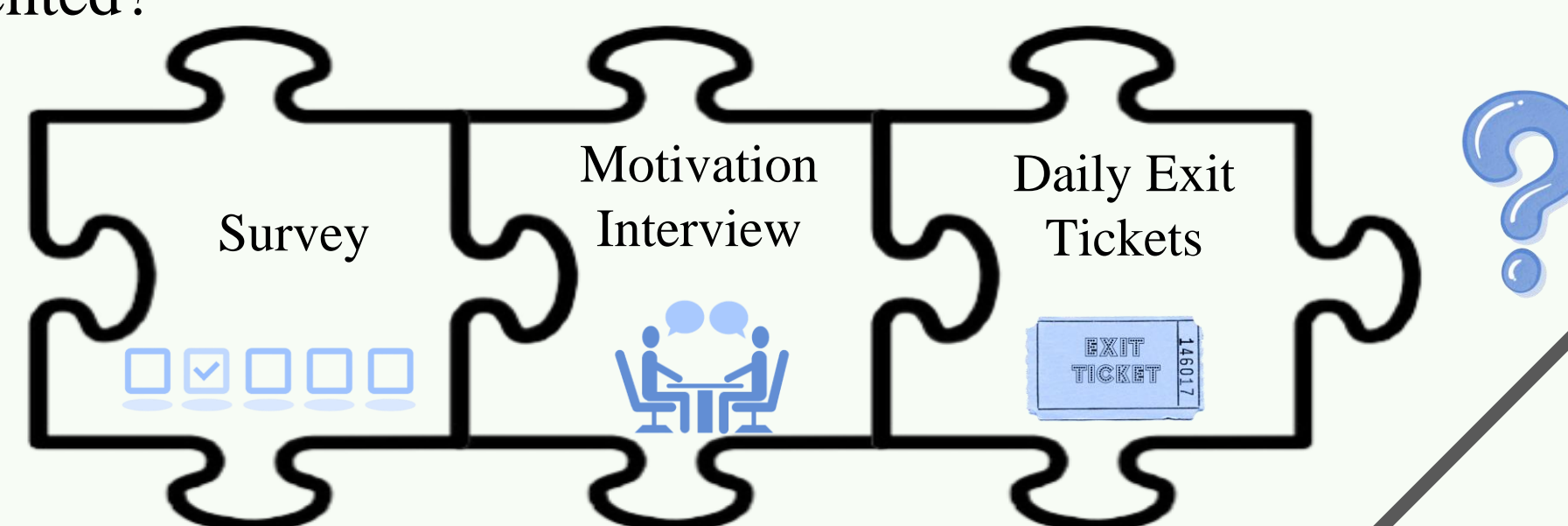
Evidence:

"You've never seen kids so engaged when she taught this Storyline lesson. Everyone was engaged." – STEM coach



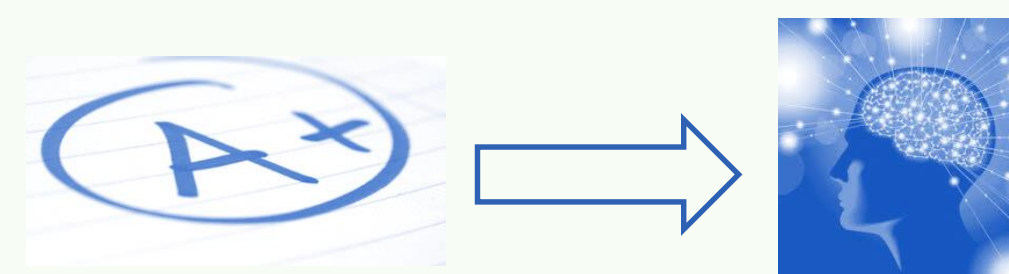
Motivation

Does the implementation of NGSS storylines help shift 7th grade motivation from performance to mastery oriented?



Claim:

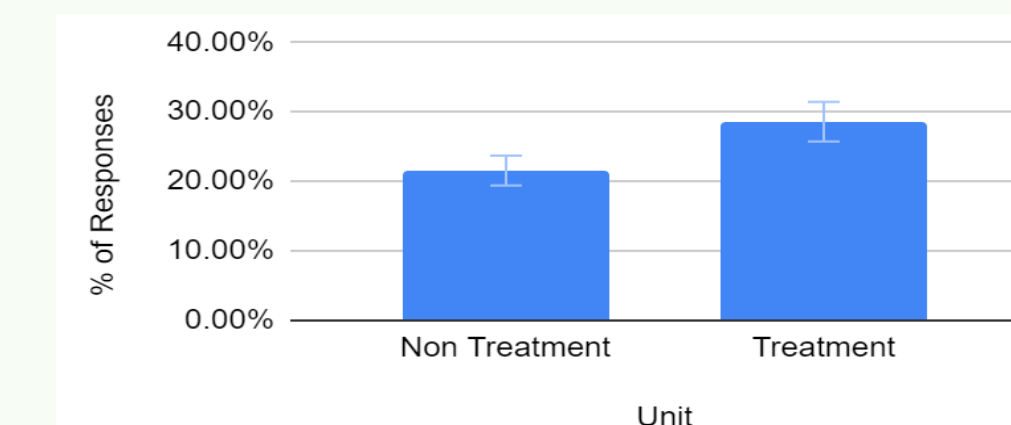
- ❖ Motivation shifted from performance based to mastery based when the material was taught through a NGSS storyline



Evidence:

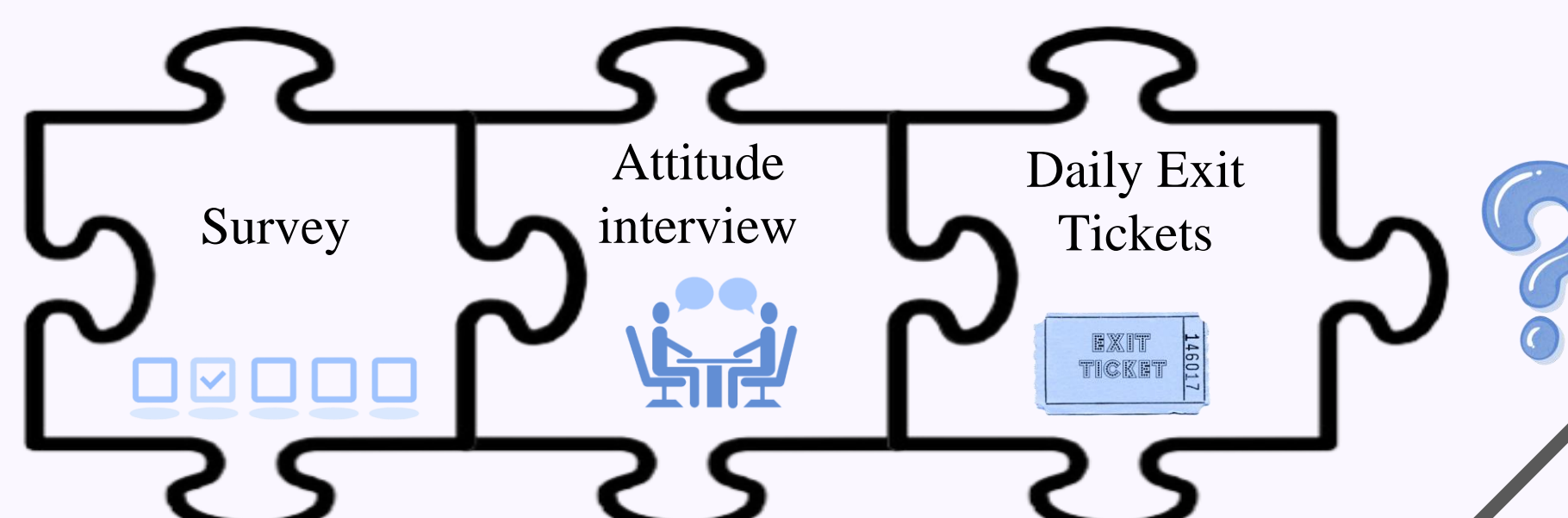
Student responses to why we did what we did in class:

- Non-treatment: "Because you told us to"
- Treatment: "To understand more about how Usain Bolt runs his race"



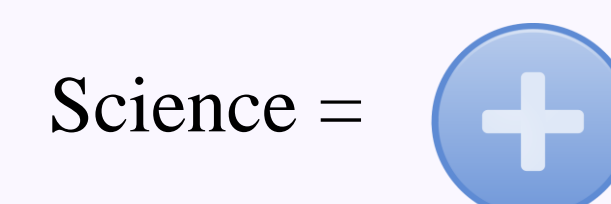
Attitude

Does the implementation of NGSS storylines increase the attitude of 7th graders toward science?



Claim:

- ❖ Positive student feelings toward science slightly increase when they learn through NGSS storylines as opposed to an isolated unit.



Evidence:

- 80% of students enjoyed science more when they learned in the storyline unit
- 100% of students found the science more meaningful/relevant to their life
- "The storyline unit gave real world context to reinforce and was relevant to how we live our lives"- Student
- "The storyline was more interesting in the way it all connects and really explains it"- Student
- "The storyline helped explain things easier, it was not just here is the information memorize it, it was more interactive and memorable"- Student