



Post Fellowship Reporting - Project Summary

Report Title: Biking for Math and Science **Name:** Javier Velazquez
Other Team Members:
Program: Chicago Program
Trip Dates: 11/30/-0001 - 11/30/-0001 **Location Visited:** Portland, OR to Springfield, MO
Post Fellowship Reporting Template: PFR Template 01

Project Summary: For the past six years, my teaching has centered on following a curriculum based on state standards and using lessons and problems from our math book series. While our math texts makes an attempt at connecting math concepts to real life situations, I am constantly seeking out examples that are more accessible to my students. This past summer, I set out to create the ultimate real world mathematical and scientific model to use in my classroom by riding my bicycle close to 2,500 miles from Portland, Oregon to Springfield, MO.

I spent five weeks riding my bicycle through eight different states gathering real life data to use in my classroom. Every morning, I would plan my route for the day, and pedal away for up to nine hours. Periodically, I would stop to rest and refuel, check if my solar panel charger was charging my devices, and enjoy the majestic scenery I was riding past at a leisurely, snail's pace. Each night, as I crawled into my tent or settled into a motel bed, I would record the distance I had traveled, the amount of time I had ridden, my average speed, my maximum speed, and a list of all the food I had consumed! When the thick forests, the desert highlands, or the never-ending plains gave way to a small town, I would upload my data, stories, and pictures on my blog, allowing my students and family to share in this amazing experience. I was riding alone most days, planning all the different ways I would share this experience with my students and use the data to create more engaging math and science lessons in the classroom.

Career Impact: *Allowed me to gather data to use as I teach various mathematical concepts including, but not limited to, linear functions, rate, proportions, negative integers, and central tendency.

*Explored how to use real world situations to improve student learning.

*Allowed me to experiment with a solar panel charger and strengthen my understanding of and explore the use of solar energy and electricity.

*Accomplished an amazing personal goal that has revitalized my passion for teaching.

Classroom/Community Impact:*Students are viewing the blog to read about my experiences and solve the problems that were posted on the blog.

*Students are analyzing and discussing the data I collected in multiple lessons and classroom activities, gaining an authentic understanding of various mathematical and scientific concepts.

*Students have been exposed to new experiences through my stories and blog, and have learned about setting goals and persevering in accomplishing those goals.

*Colleagues and I have started work on how to create and use real life models in their teaching, and how I could best utilize the data I collected in my teaching.

Open Response: *Students are currently working with data to solve problems dealing with negative integers, linear functions, ratios, proportions, and central tendency.

*Planning science units revolving around mechanical advantage and simple machines, forces, and solar energy.

*Conducting action research to explore the differences in student learning between a text-book based approach and a real-world problem approach.

*Planning a short bicycle tour to Milwaukee to share experience with colleagues and students, and allow students to collect data to

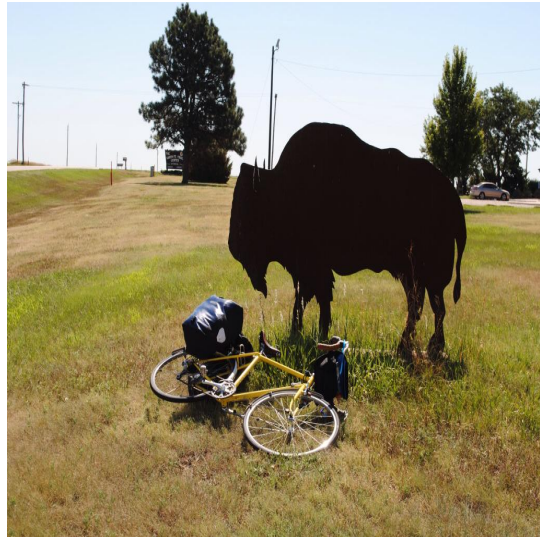
create their own mathematical model.

Quote: "When one stops moving so quickly, it becomes easy to see the math and science all around us."

Photos:



In Colorado, at over 11,000 feet, the highest point on my cross-country ride.



Bison on the great plains.



"Did I make a wrong turn?"



The Gateway Arch concludes the ride.



The mighty Columbia River guided me the first week of the trip.



Crossing the Continental Divide in Yellowstone National Park.



Just another day of pedaling.



The natural beauty of northern Idaho.