Advancing Geospatial Thinking and Technologies in Grades 9-12: Citizen Mapping, Community Engagement, and Career Preparation in STEM

Our Purpose

The external evaluation has been designed to assess the methods, design, and progress toward objectives of the project and act as a critical friend on their research activities.

Our Methods

During the first year of the grant, the evaluator attended team meetings, observed advisory board meetings, provided feedback, worked with the team to develop the design criteria for the curriculum, reviewed the summer student program agenda, and surveyed the team members on their progress.

Teamwork and Planning

- ***Attention to detail, involving the whole team, problem solving***
- ***Using online workspace as a "Team Space"***
- ***Process was Inclusive, Collaborative, Focused, Organized, Efficient***
- ***Building on this year – Involve new Hub director and high school teachers, use developed templates, evangelize, develop data analysis plan***

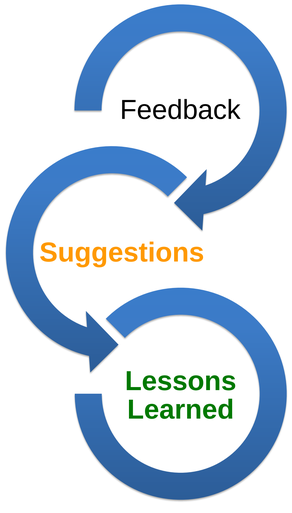
Working with the Teacher Advisory Board

- ***Important to the process – critiqued activities, regional advice, shaped the project to fit student needs, on the ground planning, diverse settings, data collection, piloting curriculum***
- ***Teacher Advisors developed topics, surveyed students about topics and opinions – building by-in***

Improve students' spatial thinking and geospatial technology skills through citizen mapping while preparing them for the STEM workforce of the future.

Use spatial thinking, geospatial technologies, and citizen mapping to enhance student engagement in and knowledge of their communities.

Create a model for engagement/interaction of geospatial technologies and science and social studies curriculum.



Feedback

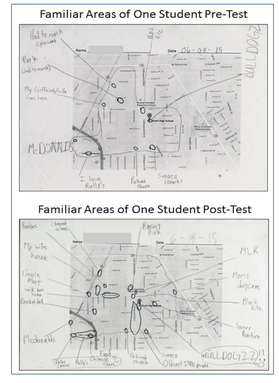
- Students were focused(ish), motivated by prizes, didn't like pre and post tests, became more engaged
- Workshop needs to be a balance between fieldwork, instruction, speakers, and games
- Experiences with professors and community speakers a key component
- Students learned quickly, were at ease with the staff, helped each other
- Find ways to keep students coming back
- Some issues with scale-up – going to 30 students a challenge due to attention, grouping, technology access, student roles and responsibilities

Suggestions

- Recruit more students for broader range of response and group dynamics
- Form groups and establish norms
- Involve other teachers from school
- Have only 3-4 student objectives
- Get student feedback daily
- Have students spend more time discussing data and preparing presentations
- Have a plan for students who are absent
- Pilot activities with other groups before the summer

Lessons Learned

- Geospatial technologies lacking in schools
- Need to integrate information about careers throughout the curriculum
- Goals are perhaps too ambitious for 2 week program
- Focus on sustaining student attention through activities and variety
- Student understanding varies and interpretation changes



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