

NATIONAL WILDLIFE FEDERATION



Schoolyard Habitats: Inspiring Inquisitive Minds and Academic Success

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Photos: Corbis, Eyewire, Comstock





Austin
Independent School District

Case Study

Austin Independent School District, Austin Texas

- 35th largest in U.S.
- 130 schools
- 86,000 students—74% minority
 - 60% Hispanic
 - 8% African American
 - 6% Other
 - 26% White
- 61 % economically disadvantaged





Case Study

Austin Independent School District, Austin Texas

Problem

- Low science academic achievement

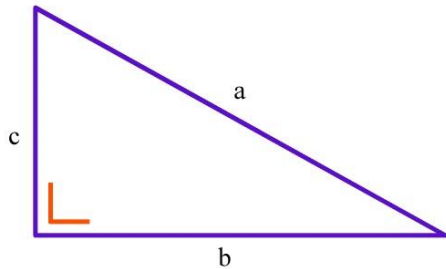
Sub-problems

- Low interest
- Low motivation
- Lack of location for field investigations w/o field trip
- Lack of outdoor curriculum

Goals

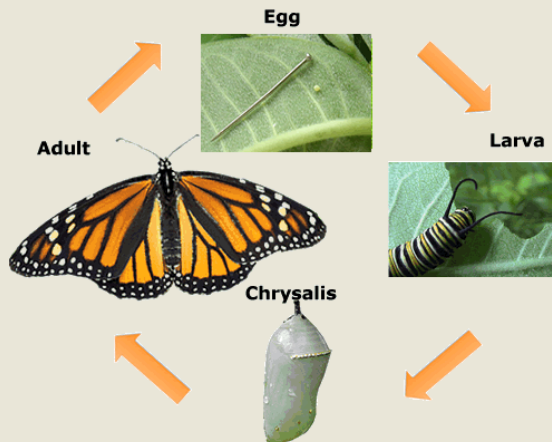
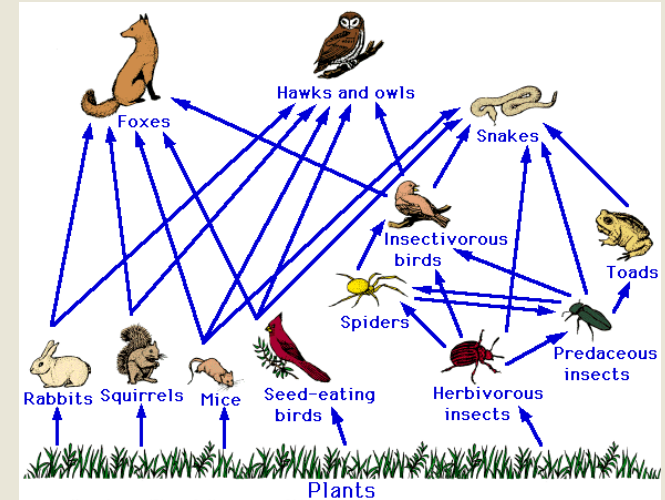
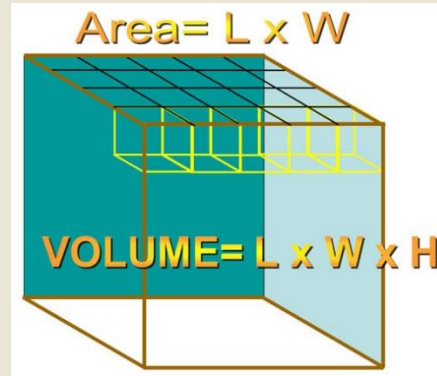
- To improve science learning through SYH K-8
- Increase use of outdoor space for inquiry based science instruction
- Increase science knowledge and motivation in students
- Reduce achievement gaps based on demographic performance

Making Learning Relevant/Meaningful to Student Lives



Pythagorean Theorem

$$a^2 = b^2 + c^2$$





Method

Institutionalizing Outdoor Learning

Activities:

- Outdoor Learning Specialist within AISD
- Align NWF curriculum to state standards and AISD district standards
- Provide professional development
- Signed Agreement with Schools
 - Habitat Teams
 - Maintenance Plans
- Provide mini-grants to each campus
- Facilitate installation of 18 SYHs and 1 district demo habitat
- Provide consultants to offer support and resources to teachers
- Administered student and teacher evaluations







Murchison MS Before



Murchison MS After



Zavala ES Before

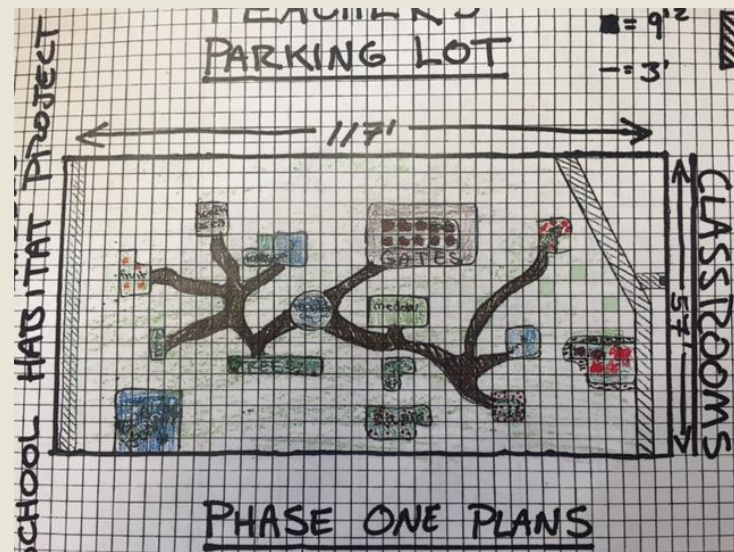






Key Components to Success at the Campus Level

- Habitat Team
 - Regular Meetings
 - Minutes kept with action steps
 - Curriculum links
- Time Line
- Maintenance Plans
- Student Involvement in the process
 - Site analysis and selection
 - Design Process
 - Plant selection
 - Implementation
 - Maintenance



The Process of Creating the Habitat



- Relationships/Community
- Collaboration
- Knowledge, skills



- Problem Solving
- Empowerment
- Stewardship

Evaluation

Teachers and Students

TEACHERS

- Activity logs
- Observation logs
- Surveys
 - SYH use
 - Curriculum sources
 - SYH potential for teaching
 - Student benefits
 - Academic
 - Social
 - # of hours to plan, build and maintain habitats
 - Additional funding and collaborators
 - Administrative support

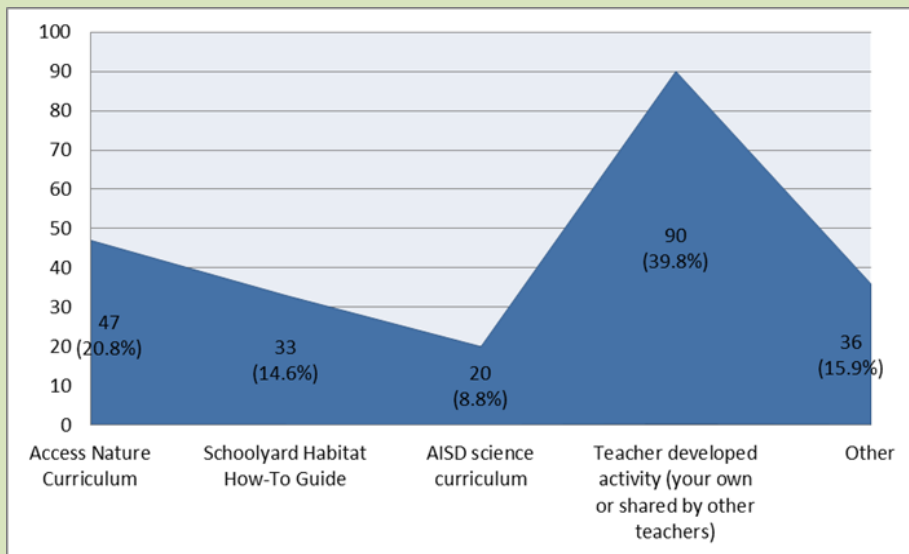
STUDENTS

- Survey
 - Motivation to learn
 - Understanding of science concepts
 - Science knowledge
 - Demographics
 - Best place to learn science (indoor or outdoors)
 - Community advantages of having a SYH on their campus
 - Are students in favor of having a SYH on their campus?

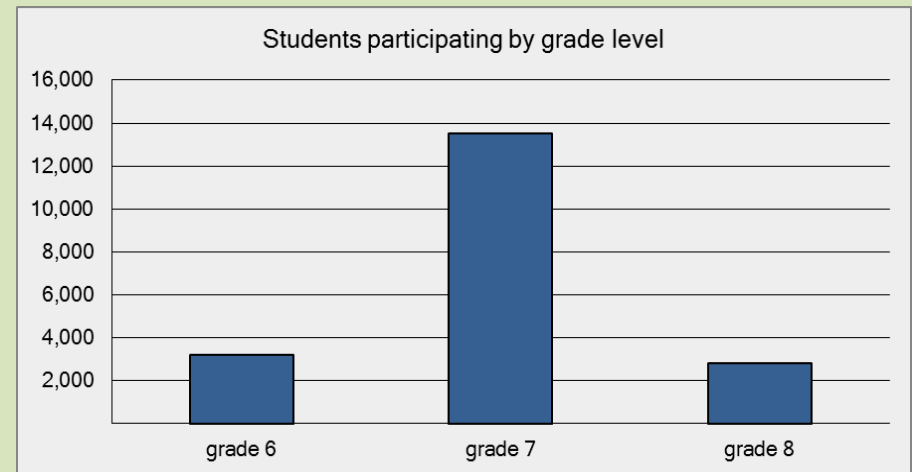
Evaluation

Teacher Surveys

Curriculum sources used for lesson

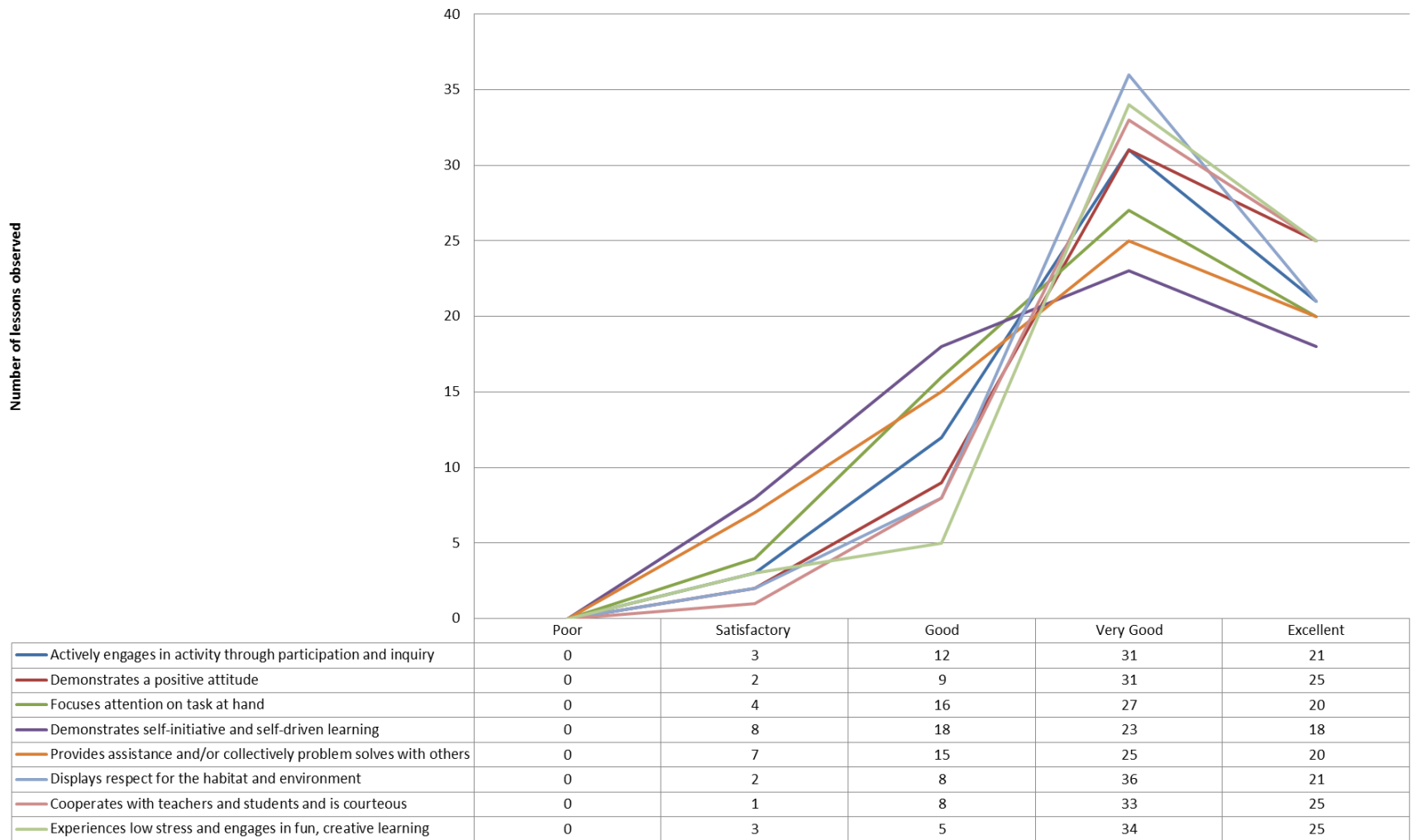


of students participated in SYH lessons and building activities by grade level



Social Skills

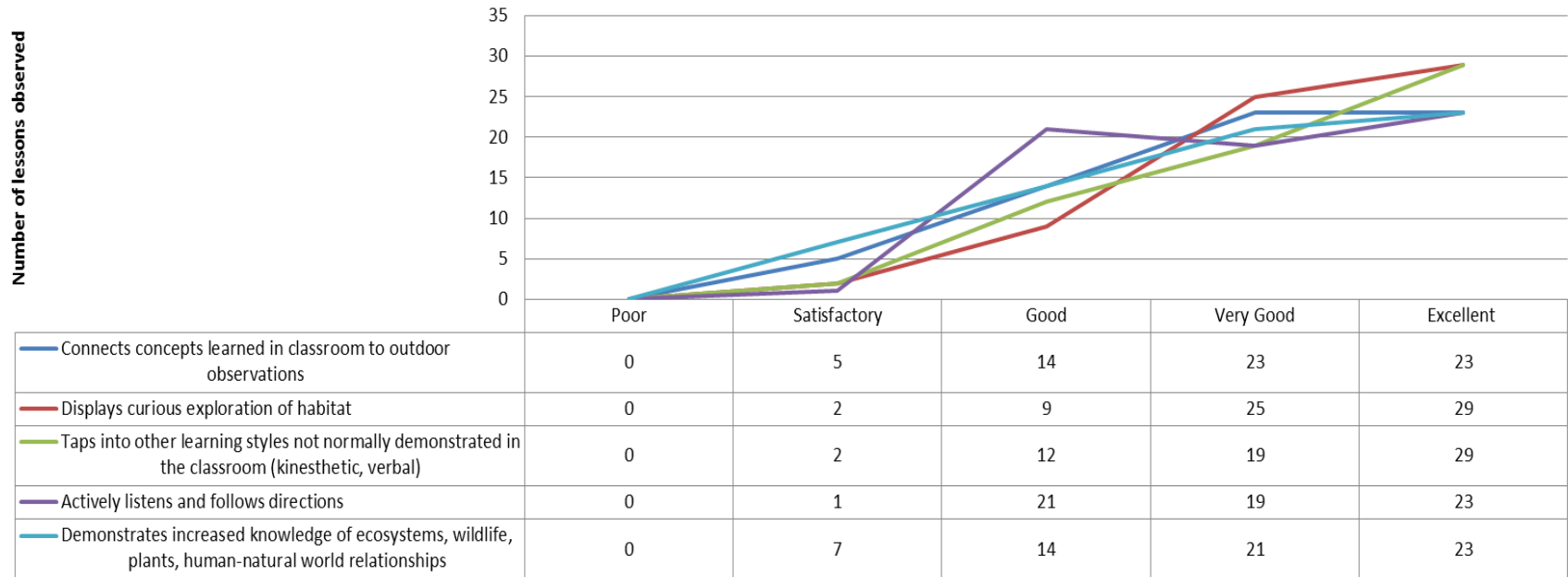
Teacher ratings of student social skills in SYH lessons



Very good to excellent ratings for social skills

Active Learning

Teacher ratings of active learning during SYH activities/lessons



Very good to excellent ratings for active learning

The Teaching Value of Schoolyard Habitat

Statement	Mean	Range (low, high)
My SYH is nice, but doesn't improve student academic achievement	2.7	1,5
Students prefer SYH activities to traditional school activities	4.4	2,6
My SYH curriculum helps students improve grades	4.1	1,6
The SYH helps me meet district and/or State learning standards	4.6	3,6
I feel energized and confident teaching about the local environment	5.3	3,6
It is difficult to cover traditional content areas using my SYH curriculum	3	1,5
The SYH program helps me be a better teacher	4.4	1,6
Using the SYH helps students understand science concepts	5	3,6
Since beginning the SYH I have participated in additional environmental training NOT related to NWF	4.2	1,6

Teacher ratings of “very unlikely to be true” to “very likely to be true” for statements regarding the teaching value of having a Schoolyard Habitat.

Summary of Teacher Evaluations

- Using the SYH helps students learn science concepts
- Outdoor learning environment shows itself to be conducive to student academic learning.
- Outdoor learning lends itself well to student behavior management and providing opportunities to practice collaborative learning
- Most plan to continue to using the SYH to teach academic content
- A strong positive correlation between a teacher's general sense of self-efficacy about the program and how relevant they felt the program was to student learning
- Teachers feel that the existing curriculum needs improvement
- One in four campuses have plans to develop and expand their SYH project post-funding

"Students learned lifelong skills that they may use later in their lives. They will also teach future generations."

- Murchison MS Gr 8

"Getting students curious about the outdoor world. Using common sense to solve real-world issues."

- Paredes MS Gr 8

"Students gained first-hand connections with the natural world."

- Bedichek MS Gr 6

"The students were exposed to something they see everyday but had no idea how it worked."

- Garcia Gr 7

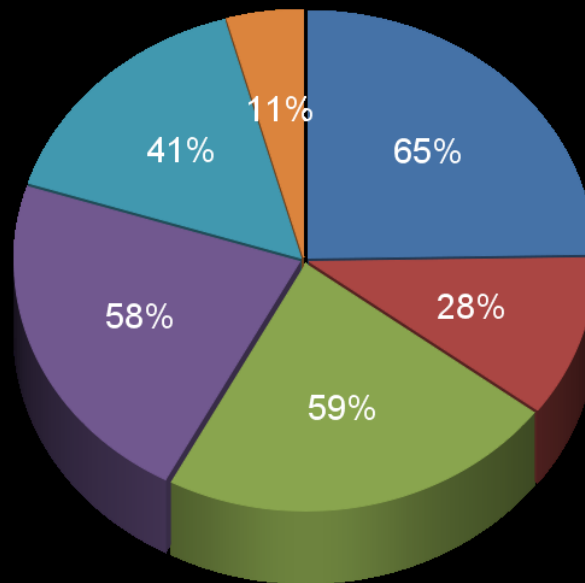


Evaluation

Student Surveys

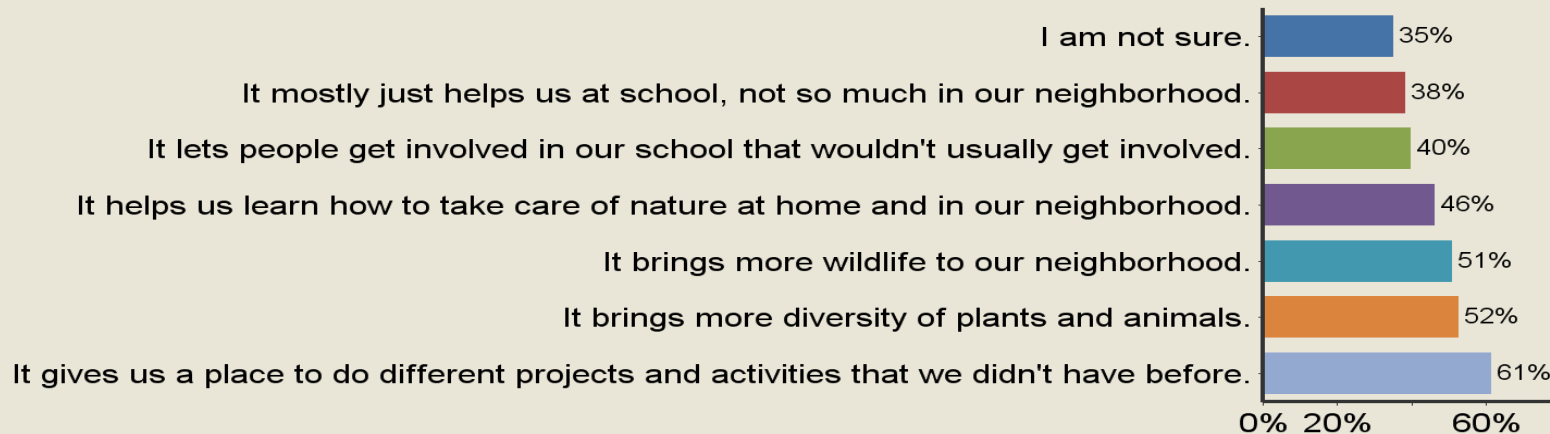
How did students view the usefulness of the habitat to their learning?

- Helped us learn about nature by seeing it in person.
- Not made much difference to our lessons.
- Taught us about wildlife and plants
- Given us a fun way to learn and explore science.
- Helped the students & teachers get involved in a project together.
- Other (please write in)



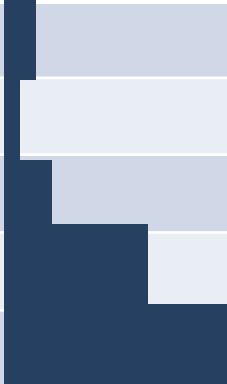
The majority of students view the habitat as a useful learning tool

What are the advantages of having a schoolyard habitat on your campus?



The advantages of having a SYH on campus reach into the community

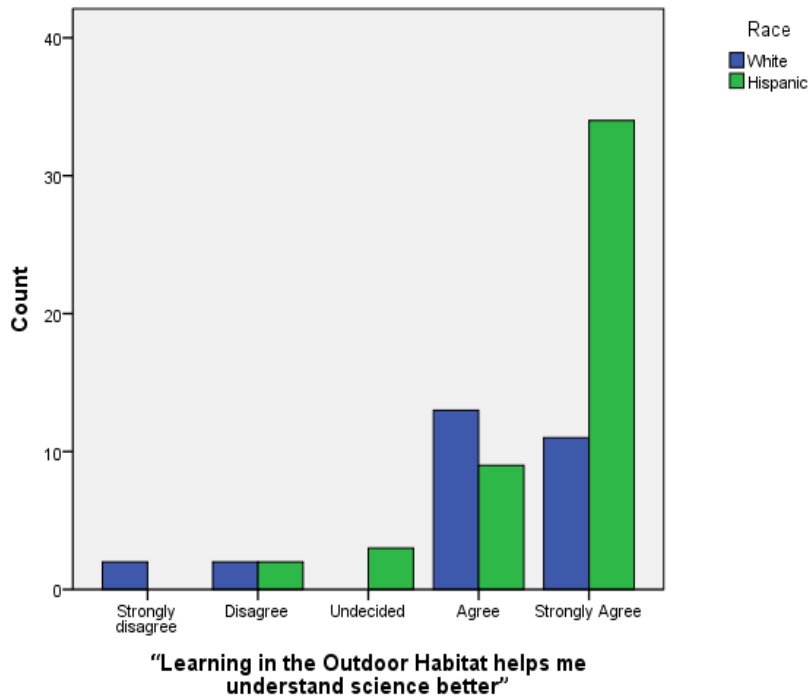
Learning in the Outdoor Habitat helps me understand science better

#	Answer	Bar	Responses	%
1	I disagree a lot		24	6.75%
2	I disagree some		20	5.63%
3	I am neutral		32	9.01%
4	I agree some		106	29.86%
5	I agree a lot		173	48.73%
6	Total		355	100.00%

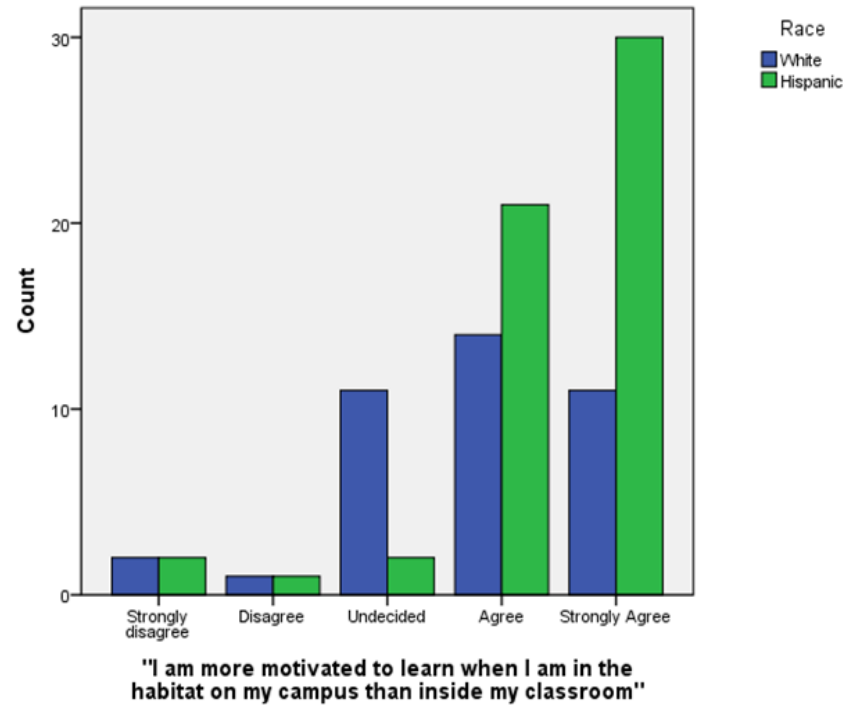
80% of the students believe learning in the outdoor habitat helps them understand science better

Closing the Achievement Gap

Hispanics report a better understanding of science using the habitat



Hispanics are more motivated to learn in the habitat



Summary of Student and Teacher Evaluations

- Process of planning and building habitat is important
 - Collaboration
 - Observe nature first hand
 - Learn science content
 - Skills
- Closing the Achievement Gap
 - Hispanic students seemed to receive the higher levels of motivation from the experience
 - Hispanic students understand science concepts better in the SYH.
- Active understanding of concepts rather than passive vocabulary memorization
- Students and teachers are both in favor of having a schoolyard habitat on their campus



Why a Demonstration Habitat?

- Train teachers to use the outdoors as a classroom
- Increase the School District's long-term commitment to outdoor environment-based learning
- Provide a model for AISD campuses and surrounding districts
- Institutionalize Schoolyard Habitats





[Video-Discovery Hill Outdoor Learning Center](#)

Questions?

