

The background of the slide is a photograph of a group of young people, the Cody Youth Ambassadors, in a grassy field. They are gathered around a metal fence. One person in the foreground is leaning over the fence, holding a white object. The field is green and appears to be a natural area. The sky is bright and clear.

The Cody Youth Ambassadors: Voices for Change and Hope in the Cody Rouge Community *Detroit, Michigan*

An urban high school

About the case study

This case study of place-based stewardship education (PBSE) at the Detroit Institute of Technology (DIT) at Cody High School is one of 11 case studies developed by staff of the Great Lakes Stewardship Initiative (GLSI), staff of the GLSI's nine regional hubs, and the educators whose work is featured in the study.

This case study focuses on a PBSE effort that began late in the 2014–15 school year and continued through the 2015–16 school year. At most of the sites featured in these studies, including DIT, the PBSE approach has been developed over the course of several years.

Each school featured in a case study works with the GLSI through a regional hub. Hubs provide

professional development for educators, help schools connect and partner with community-based organizations, and provide funding and other PBSE supports with an environmental stewardship emphasis. The Detroit Institute of Technology has a longstanding relationship with its hub, the Southeast Michigan Stewardship Coalition, or SEMIS.

The Cody Youth Ambassadors: Voices for Change and Hope in the Cody Rouge Community

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*Cover: DIT students embrace their opportunity to explore and connect with nature at Rouge Park.
Photo: Leisa Thompson*

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Conventions in this document

As you read this study, you will see special icons in the text.



This icon marks a teaching tool, resource, or product that you can access and download from the case study.



This icon marks a connection between the work being described and the GLSI's Guiding Principles for Place-based Stewardship Education, developed by GLSI central and hub staff to describe the GLSI's vision for exemplary place-based stewardship education. Certain aspects of each case study illustrate how one or more of the principles can be enacted in classrooms and communities.



Quick Summary

This project provided a dedicated group of students—the Cody Youth Ambassadors—with a chance to expand their message of stewardship and civic action

The students adopted Detroit's Rouge Park and investigated issues of environmental and community health with the entire ninth grade at DIT.



Stevie Chilcote of DYES-EcoWorks points out macroinvertebrates collected in pond samples from Rouge Park. Photo: Leisa Thompson

The Detroit Institute of Technology (DIT) is an urban high school on the far west side of Detroit, Michigan. One of DIT's after-school programs is the Youth Ambassadors—a program for student leaders who set an example for the rest of the student body, provide leadership, and contribute their voices to discussions about their school's improvement.

Working with their faculty sponsor, Mr. Chad Segrist, Youth Ambassadors have become involved in their community in varied ways. For this project, after exploratory and planning efforts in the 2014–15 school year, Ambassadors worked with teachers and partners throughout the 2015–16

school year to embed nearby Rouge Park into the curriculum of ninth-grade English language arts, social studies, and science classes.

Students learned about Rouge River water quality challenges, as well as littering and pollution problems in the park, and discovered the history of the land and water in the Cody Rouge community. The project marked an important advance for stewardship at DIT, because it was the first time that stewardship learning was integrated into core subject matters during the regular school day, and involved an entire grade level.



Community Context



Context is essential in place-based stewardship education

There is perhaps no more distinctive characteristic of PBSE than its treatment of place as the context for learning.

Our sense of place does not exist in only one geography, and it changes as we age. When we are very young, we may experience our strongest sense of place in our homes, neighborhoods, and favorite places for play. As we grow, we begin to understand that we are members of other communities, too—a school community, a city or town, a watershed, a state, or a bioregion such as the Great Lakes.

PBSE relies on place—including lands and waters, people and organizations, history, and culture—as a starting point for teaching and learning. Reading about rainforests or deserts may be interesting, but environmental learning grounded in students' home communities builds on a foundation of community attachment and place-based knowledge.

For students at the Detroit Institute of Technology at Cody High School, that foundation includes their school and the broader Cody-Rouge neighborhood in which it is situated.

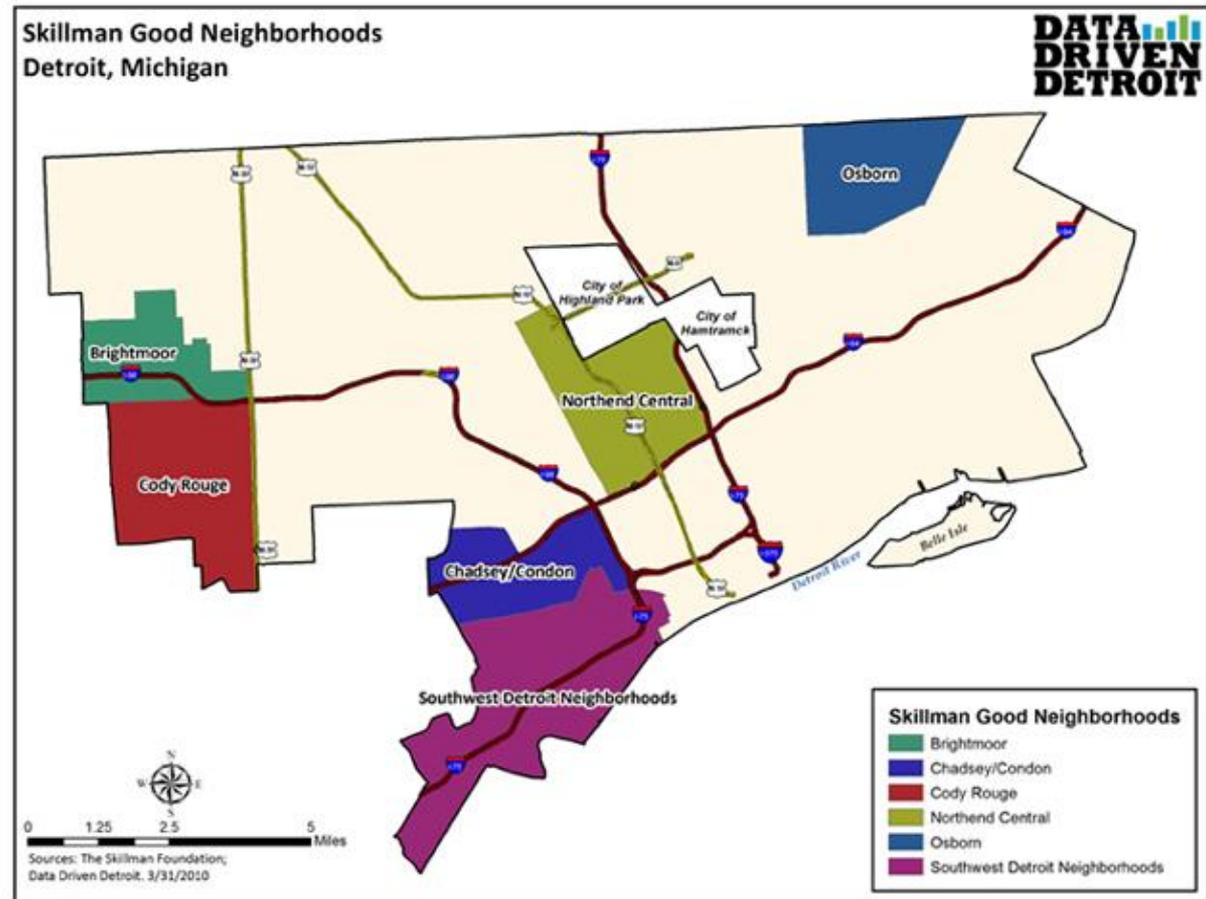
The Detroit Institute of Technology at Cody High School is part of the Cody-Rouge Community on Detroit's west side

The Cody-Rouge Community was developed between 1920 and 1950 to house workers in the expanding manufacturing industry (Codyrouge.org 2014). As of 2010, the community was home to more than 36,000 residents, of whom more than 12,000 were under 18 (Data Driven Detroit, n.d.).

Like other neighborhoods in Detroit, the Cody-Rouge community is struggling with limited economic opportunity, high poverty and crime rates, and aging housing stock. However, the community is also a place with traction for reinvestment and renewal. Investments like the Skillman Foundation's Good Neighborhoods Initiative (see image) are working to reverse negative trends by strengthening education, youth programs, and community institutions like the Cody Rouge Community Action Alliance.

[LINK: SKILLMAN GOOD NEIGHBORHOODS INITIATIVE](#)

[LINK: CODY-ROUGE STATS FROM DATA DRIVEN DETROIT](#)



The Cody Rouge neighborhood in west Detroit where DIT is located is shown in red. The neighborhood is one of six sites selected by the Skillman Foundation for its Good Neighborhoods initiative, a 10-year, \$100-million dollar effort to stabilize six Detroit neighborhoods that are home to a significant number of children (The Skillman Foundation).

Cody High School and the surrounding area were the focus of a massive, volunteer-driven blight-fighting effort in 2014

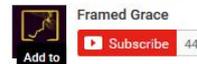
Life Remodeled, a Detroit nonprofit, hosts one weeklong effort each year targeting a specific Detroit neighborhood.

Local filmmaker Walter V. Marshall chronicled the effort in his documentary, *Cody High: A Life Remodeled Project*. The movie trailer, available on YouTube, provides a view of the school, its neighborhood, and the impact of investments from the Skillman Foundation and Life Remodeled.

[LINK: CODY HIGH: A LIFE REMODELED PROJECT TRAILER](#)



CODY HIGH: A LIFE REMODELED PROJECT - Official Trailer



3,043 views

An aerial view of Cody High School as seen in the Cody High: A Life Remodeled Project Trailer.

The Detroit Institute of Technology is one of four high schools housed in the former Cody High School building



Photo courtesy of City Year (<https://cityyaretroito.wordpress.com/school-teams/cody-high-school-2/about-cody-high-school/>)

Detroit Institute of Technology (DIT) is a Detroit Public School, co-located within the old Cody High School building with the Academy of Public Leadership, Academy of Critical Thinkers, and the Academy of Medicine and Community Health. The division of Cody into small schools was initially a product of Gov. Jennifer Granholm's 21st Century School Initiative

to revitalize Michigan schools.

In fall 2009, after a restructuring with oversight from the United Way, the Greater Detroit Education Venture Fund, and the Institute for Student Achievement, DIT and the other small schools opened their doors.

The Small Schools at CODY

We're new! We're safe! We're where you want to be!

Space is limited so hurry and enroll today!

Choose your school:

- Academy for Public Leadership at Cody (9th grade)
- Academy of Critical Thinkers at Cody (9th grade)
- Academy of Medicine and Community Health at Cody (9th grade)
- Detroit Institute of Technology at Cody (9th grade)
- Cody Upper (Grades 10-12)

Each school has:

- Small class sizes and personalized attention
- Caring teachers and administrators to mentor students from 9th grade to college orientation
- Exciting, new educational and social opportunities for a well-rounded student who is college ready

Stop by the enrollment center inside Cody

Located at 18445 Cathedral Detroit, MI 48228
 Mon.-Fri., 8:00 a.m. to 3 p.m.
 or call 313-866-9497.




The Small Schools at Cody are supported by the Greater Detroit Education Venture Fund, which was created by United Way for Southeastern Michigan. United Way is a leader in high school turnaround, and provides funding, advocacy, and other supports in five metro Detroit turnaround high schools.



“Place-based educators in many urban schools start with fewer resources ... in this respect, place-based education—and the role it plays in engaging the community—is about survival and creating a circle of support around you that can help you get a quality education and transform your community into a healthy and safe place.”

—Chad Segrist, DIT teacher

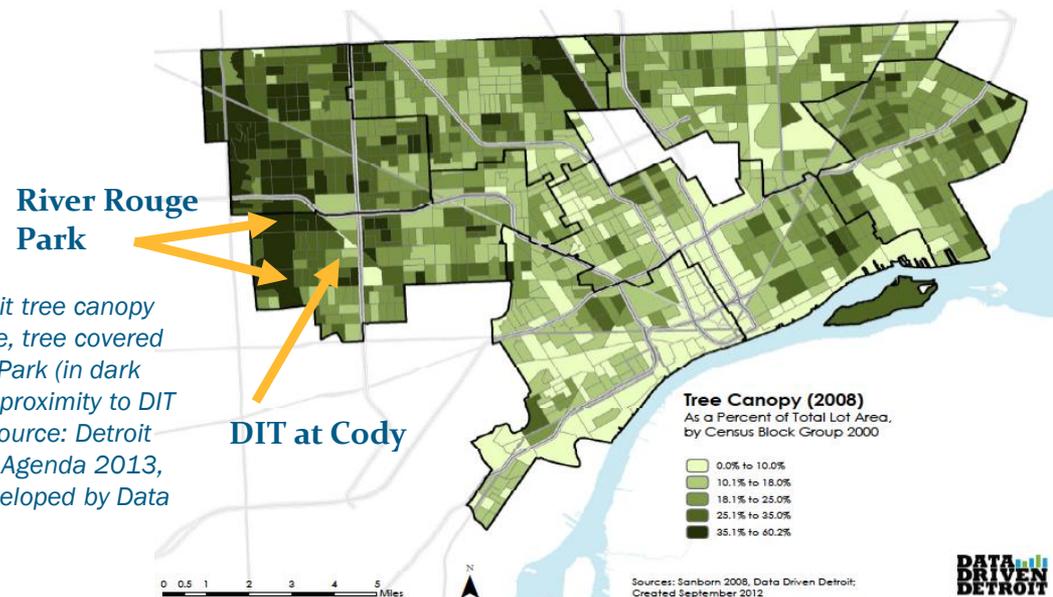
Although DIT is located in an urban core, nature is still nearby

DIT is just two miles from River Rouge Park and the Rouge River. Rouge Park, as it is known locally, is more than 1,200 acres in size, or about two square miles. That is 40 percent larger than New York's Central Park and significantly larger than Belle Isle, Detroit's best known park. Rouge Park has abundant nature resources, with the Rouge River running through its full length, as well as significant stewardship needs: it suffers from deteriorated facilities and chronic maintenance problems, such as overgrown trails and ball fields and a lack of functioning restrooms.

Nature is also accessible at DIT. Despite its urban setting, the school boasts a courtyard, greenhouse, and ample greenspace around the building. DIT students have orchestrated multiple beautification and gardening projects on school grounds as well as expanding into the community and most recently into local parks.



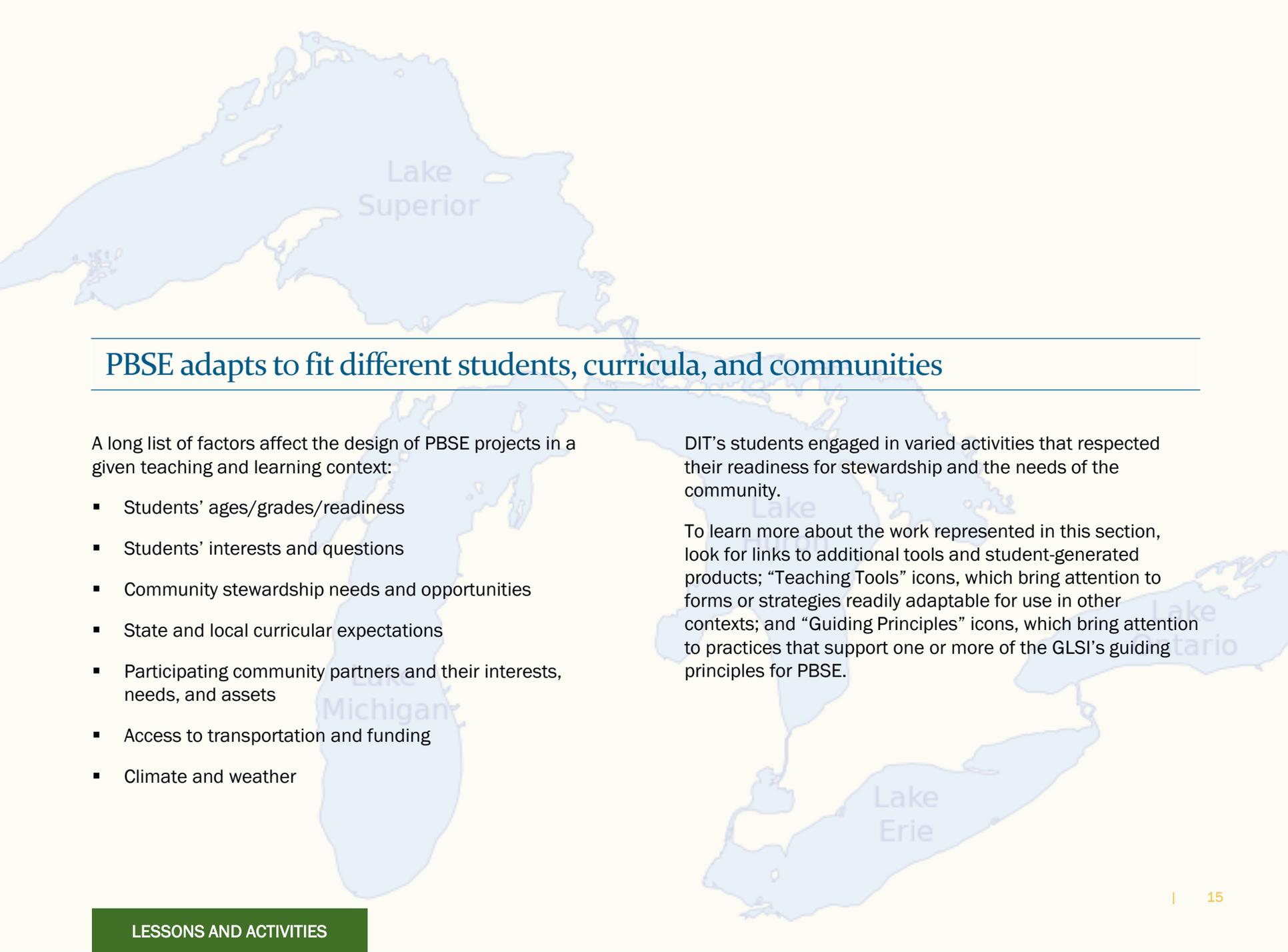
Signage for the park. Source: Michigan Chronicle (<http://michronicleonline.com/2014/10/08/a-closer-look-at-detroits-district-7/>)



A map of Detroit tree canopy shows the large, tree covered area of Rouge Park (in dark green), and its proximity to DIT at Cody. Map source: Detroit Environmental Agenda 2013, p. 26. Map developed by Data Driven Detroit.



Lessons and Activities



PBSE adapts to fit different students, curricula, and communities

A long list of factors affect the design of PBSE projects in a given teaching and learning context:

- Students' ages/grades/readiness
- Students' interests and questions
- Community stewardship needs and opportunities
- State and local curricular expectations
- Participating community partners and their interests, needs, and assets
- Access to transportation and funding
- Climate and weather

DIT's students engaged in varied activities that respected their readiness for stewardship and the needs of the community.

To learn more about the work represented in this section, look for links to additional tools and student-generated products; "Teaching Tools" icons, which bring attention to forms or strategies readily adaptable for use in other contexts; and "Guiding Principles" icons, which bring attention to practices that support one or more of the GLSI's guiding principles for PBSE.

Cody Youth Ambassadors are the driving force behind place-based stewardship education at the Detroit Institute of Technology at Cody

The Youth Ambassadors afterschool program began in 2012 when Chad Segrist joined the teaching staff at DIT and created it. Youth Ambassadors are student leaders who set an example for the rest of the student body, provide leadership, and contribute their voices to discussions about their school's improvement. Students are recruited to the program from all grade levels.

In addition to their leadership work in school, Mr. Segrist and the Ambassadors have taken on a number of projects on the campus and in the community. In recent years, they have placed particular emphasis on environmental issues facing the school and larger Cody Rouge Community.

During the 2015–16 school year, there were 12 Youth Ambassadors, and these students began mentoring ninth graders to become Youth Ambassadors in the coming years. They see this new ninth-grade connection as a way to reach more students and to have a bigger impact in their community.



Photo: Leisa Thompson

“The youth who become Ambassadors want to see a change not only in their lives, but in the lives of the people they care about, as well as in their school community.”

—Youth Ambassadors Jonice, Anaya, and Kianna, writing in Green Teacher



The Cody Youth Ambassadors with Mr. Segrist and community partner Makena Schultz (far right) and DIT staff member Tanya Barachi (lower left) in 2015. Photo: Leisa Thompson

“The second I got there, I became a leader. It became natural, like a new habit.”

—Cody Youth Ambassador

PBSE at DIT has developed in a number of different directions

PBSE work at DIT is presented in this case study in two parts:

- **Part I** reviews *A Walk in the Park*, a structured, cross-curricular set of lessons and activities planned by the ninth-grade teacher team, in collaboration with the Youth Ambassadors, for all ninth graders at DIT. These lessons and activities are focused on River Rouge Park, and this part also includes presentations made by the Youth Ambassadors about this work and their role in it.
- **Part II** reviews other, standalone events and occasions at DIT involving environmental stewardship activities.



Rouge Park investigations. Photo credits: Leisa Thompson



*Part I —
A Walk in the Park: Youth
Ambassadors Help Develop PBSE
for Ninth Graders*

This phase of PBSE at DIT occurred across a 13-month period in two school years

In-class lessons throughout the year supplemented the special events shown here.

Pilot Park Project

Youth Ambassadors widen the scope of their ongoing work to adopt Rouge Park as a learning laboratory and involve ninth graders in their investigations of the park.

**May
2015**

**June
2015**

**Sept
2015**

**Nov
2015**

**Dec
2015**

**Jan
2016**

**May
2016**

**June
2016**

GLSI PBE Conference

Youth Ambassadors lead a conference session on their PBSE work on school grounds and at Rouge Park.

Rouge Park Inventory

Youth Ambassadors and ninth-grade students return to the park to take samples and conduct environmental inventory of the park with newly gained skills.

Youth Ambassadors Training

Before this project, Makena Schultz worked with the Youth Ambassadors to develop their voice and the meaning of being a Youth Ambassador. In January, this work continued.

A Walk in the Park

Youth Ambassadors and ninth graders participate in learning station activities around Rouge Park to learn more and inform future stewardship efforts in the park and other areas of the community.

More Conference Appearances

Youth Ambassadors attended the State of the Strait and My Brother's Keeper conferences to learn more about issues affecting local waterways and to present on their school, their concerns, and their projects.

Skill-Building for Stewardship Event

Youth Ambassadors and the ninth graders practice soil and water monitoring techniques in preparation for their final trip to Rouge Park for an environmental inventory.

Students as Teachers

Youth Ambassadors host a day of the SEMIS Summer Institute at DIT and accompany attendees on a trip to Rouge Park.

In June 2015, Youth Ambassadors hosted a day of professional learning for teachers and partners

They took them to Rouge Park to preview the “Walk in the Park” experience they were planning.

Cody Youth Ambassadors welcomed participants in the Southeast Michigan Stewardship Coalition (SEMIS Coalition) summer institute to their school with an opening tour before participating in a panel in front of 40 to 50 adults. The Ambassadors, along with students from other schools working with SEMIS, spoke about what youth leadership and voice meant to them.

Youth Ambassadors facilitated a discussion protocol on Detroit water issues with groups of ten to 15 teachers and partners, then accompanied the adults on a trip to Rouge Park. There, they shared the *Walk In The Park* experience that the Ambassadors had begun planning with ninth-grade teachers.



Above: Youth Ambassador Jonice speaks to SEMIS teachers and partners at the June 2015 Summer Institute about what it means to have a voice in her community. Right: Michigan Sea Grant’s Justin Selden works with students to assess water quality at Rouge Park. Photo credits: Leisa Thompson



In fall 2015, the Young Ambassadors hosted a full-day *Walk in the Park* experience for all ninth graders at DIT

Ninth-grade students enjoyed a full day of activities focused on the roles of environmentally minded citizens, the environment of Rouge Park, and the role of the environment in history and current life.

Students engaged in written reflection upon their return to school. Written reflections are an example of “assessments for learning” described in the GLSI’s Guiding Principles. As Billig (2007) notes in her examination of promising practices in service-learning, “Reflection is one of the core elements of service-learning and, when done well, leads to stronger and deeper outcomes, often helping the development of metacognition and other higher order thinking skills.” She further notes that, in order to achieve such outcomes, reflection should be *ongoing* and *cognitively challenging*.



GLSI Guiding Principle 3c:
Include assessments for learning as well as assessments that generate evidence of learning.

Agenda: *A Walk in the Park*

- 8:00:** Arrival at DIT, breakfast, and welcome
- 8:30:** Ice breaker and Environmental Citizen activity
- 9:45:** Board bus for Rouge Park
- 10:00:** Arrival and orientation to Rouge Park
- 10:10:** Independent stroll with reflections
handout
- 10:30:** Regather in small groups and share
observations from reflections
- 10:35:** Four rounds of stations rotations (20
minutes each)
- 12:20:** Board bus for DIT
- 12:30:** Return to school and eat lunch
- 1:15:** Independent writing reflection (with
prompts)
Dance break
- 1:30:** Chalk Talk and Walk reflection
- 2:00:** End

A Walk in the Park began with an Earth Force activity

Students were asked, “What does it mean to be an environmental citizen?”

The activity is an inquiry-based constructive brainstorm of the important qualities of an effective environmental citizen, drawn from Earth Force’s proprietary curriculum. In addition to facilitating the activity with ninth-grade students during the *Walk in the Park* events, Youth Ambassadors at Cody have facilitated the activity at conference presentations with adults and other students. Youth Ambassador Tavon Hail facilitated on this occasion.

Students split into two groups and thought privately about the skills, traits, knowledge, or other attributes they consider to be qualities of an environmental citizen. Each group of students had a flip chart with a stick figure drawn upon it, and each student, in turn, added something to the stick figure to signify an attribute of an environmental citizen. After each student had taken a turn, the groups discussed their work.

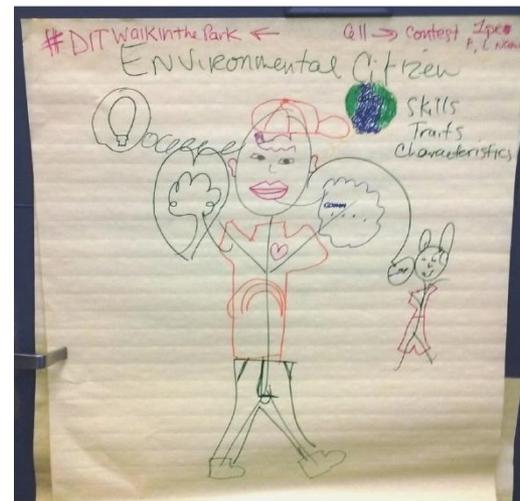


LINK: [DOWNLOADABLE LESSON OVERVIEW FOR ENVIRONMENTAL CITIZEN](#)



LINK: [ATTRIBUTES OF AN ENVIRONMENTAL CITIZEN, FROM EARTH FORCE](#)

LINK: [TAVON'S FACILITATOR SCRIPT](#)



Drawing an environmental citizen (above), and the final product (below).



Next, students boarded the bus that would take them to Rouge Park

Upon their arrival at Rouge Park, students were given a brief orientation and the opportunity to explore independently for 30 minutes. During their independent explorations, students were asked to record their observations, reflections and questions. Students later used these notes for discussions, research, and interacting with community members.

Next, students rotated through four “learning stations,” where SEMIS Coalition staff, pre-service education students from Eastern Michigan University, and community partners staffed a variety of learning opportunities. Subjects covered ranged across the arts, history, science, and current events.

During their initial explorations of the park, students reflected on five questions

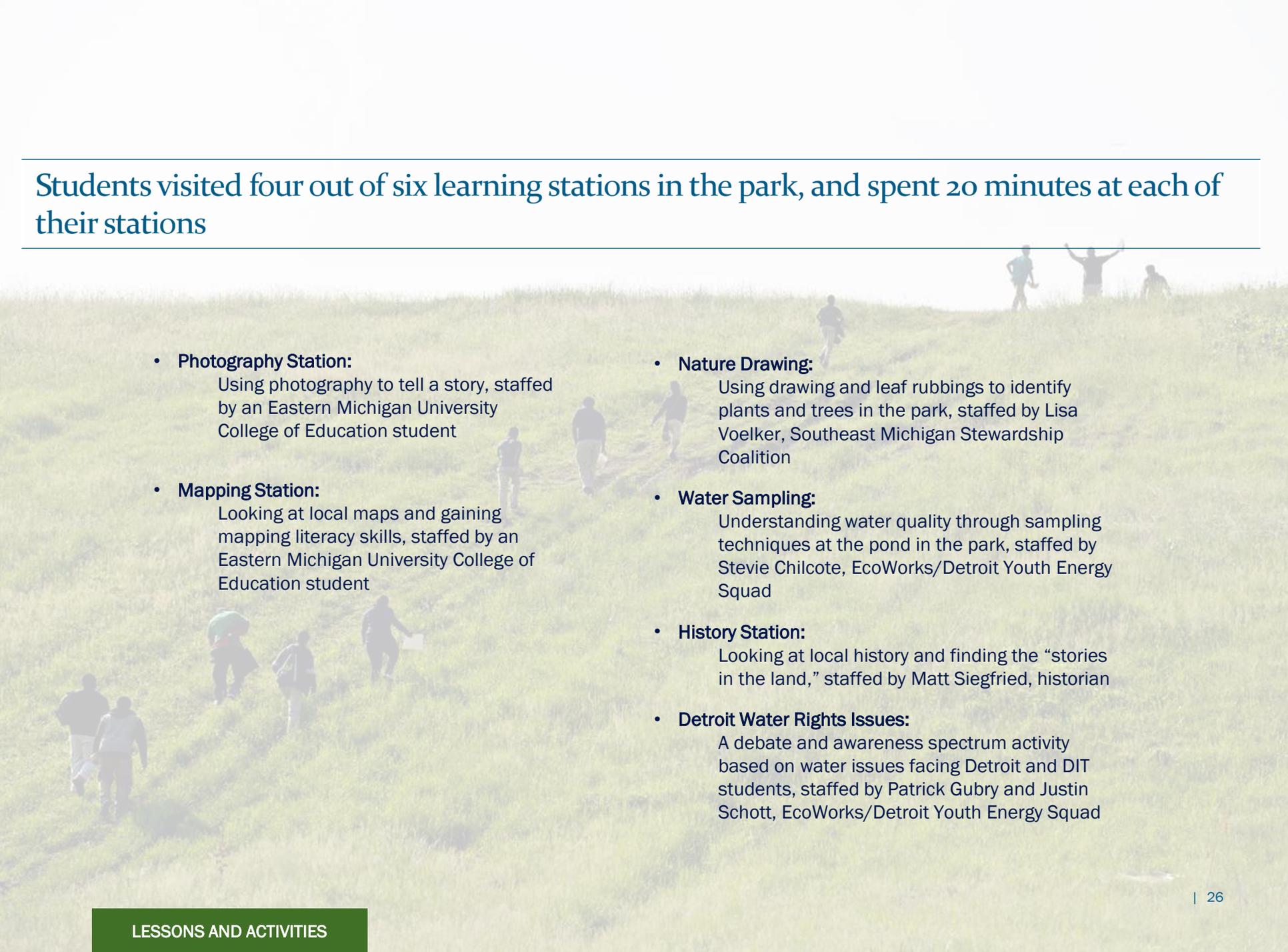


A DIT ninth grader records his thoughts at River Rouge Park. Photo: Leisa Thompson

The reflection questions were:

- 1) What are three things that you noticed while you were at Rouge Park?
- 2) What are two things you found interesting about this trip?
- 3) What is one thing you saw or learned at the park that made you think in a new way about the Cody-Rouge neighborhood? Why?
- 4) What do you think people who work at the park will tell you about the environmental issues facing Rouge Park?
- 5) What are two things you would say about Rouge Park to a friend who didn't go on the trip?

Students visited four out of six learning stations in the park, and spent 20 minutes at each of their stations

- 
- A group of people, including children and adults, are walking along a dirt path on a grassy hillside. The scene is bright and sunny, with the grass appearing green and yellow. The people are scattered across the path, some walking towards the camera and others away from it. The background shows a clear sky and more of the grassy area.
- **Photography Station:**
Using photography to tell a story, staffed by an Eastern Michigan University College of Education student
 - **Mapping Station:**
Looking at local maps and gaining mapping literacy skills, staffed by an Eastern Michigan University College of Education student
 - **Nature Drawing:**
Using drawing and leaf rubbings to identify plants and trees in the park, staffed by Lisa Voelker, Southeast Michigan Stewardship Coalition
 - **Water Sampling:**
Understanding water quality through sampling techniques at the pond in the park, staffed by Stevie Chilcote, EcoWorks/Detroit Youth Energy Squad
 - **History Station:**
Looking at local history and finding the “stories in the land,” staffed by Matt Siegfried, historian
 - **Detroit Water Rights Issues:**
A debate and awareness spectrum activity based on water issues facing Detroit and DIT students, staffed by Patrick Gubry and Justin Schott, EcoWorks/Detroit Youth Energy Squad

Back at school, students resumed brainstorming and reflection

They identified unresolved questions they had about the park and their community, as well as skills needed to answer their questions.

Students were curious about a number of characteristics of the park, and collectively recognized that, in order to learn more, a person would need skills in researching and connecting with others, contacts, time for observation, knowledge about nature and about the specific circumstances of the park, and to “know how not to be scared of nature.”

What are you curious about now that you have visited Rouge Park?

- Did my great-great grandfather cross over that bridge as an Indian?
- Why did they make the park?
- Will they ever cut down the grass in front of the abandoned house?
- They need a recycling center. [Why isn't there one?]
- Why hasn't any one else helped the environment or nature?
- Will they clean it?
- When will River Rouge be cleaned?
- Will they use it for sledding in the winter again?
- Was the Rouge there before the 1800s?
- What is that hill used for?
- When did the resident in the abandoned house move out? Who lived there?
- Why are there holes in the ground? And why so many cut trees in the middle of the woods?
- Why is there barbed wire? Arrows?
- Why did they have concrete where grass was?
- Why was the river so dirty?
- Is our environment safe?

What skills or other things would an environmental citizen need to find out more about Rouge Park?

- Internet
- Research
- [Knowledge of] People in neighborhood
- More time in the park
- Library—look for treasure
- Connections
- Back stories about the park
- Research skills and connectivity skills
- Being respectful
- Great observation skills and research/social skills
- They would need to have a sense of exploring
- Observation
- To know how to not be scared of nature
- They will need to learn how to be smart
- They would need to know how to take care of the park
- They would need to know how to connect, speak out, and be able to put their thoughts to the task
- More about trees
- They need to know why the water is dirty
- They would need to know more—gather a lot of knowledge—about the dirty water and pine trees

Selected student responses to two discussion prompts.

Throughout the school year, the ninth-grade teaching team incorporated themes associated with Rouge Park into their lessons

In social studies, ninth graders looked at the history of pollution in the park and community as well as land use and restoration efforts.

Ninth-grade social studies teacher Josh Sabo incorporated themes reflected in the C3 Framework for social studies, including human-environment interaction as well as participation and deliberation. At the same time, this framing of the Rouge River—its current status and the historical, cultural, and physical forces influencing human impacts on it—exemplify a key GLSI Guiding Principle.



GLSI Guiding Principle 2: Equip students to understand how all humans, in various ways, affect and are affected by the natural environment, and that the community’s environmental resources, laws, and beliefs and perspectives influence and are influenced by broader physical and social systems.

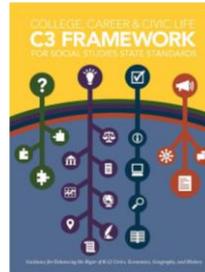
Date	Selected Social Studies Lesson Objectives
10/15/15	Students will be able to identify both historical and ongoing pollution (industrial and residential) in the Rouge River surrounding Cody-Rouge community <ul style="list-style-type: none"> I can identify sources of pollution affecting the Rouge River over time.
10/22/15	Students will be able to explain how the pollution of the Rouge River can be seen as a result of European perspectives on nature as commodity <ul style="list-style-type: none"> I can identify and explain the connections between pollution in the Rouge River and historically western European land-use beliefs. I can understand and explain what a “commodity” is and imagine and consider reasons nature could be seen as this.
10/29/15	Students will be able to identify and evaluate ongoing efforts to restore the Rouge River and Rouge Park <ul style="list-style-type: none"> I can define the term “environmental restoration.” I can identify ongoing efforts to restore the Rouge River and Rouge Park. I can compare and develop informed opinions and decisions (evaluate) about the value of different restoration efforts.
11/5/15	Students will be able to apply a definition of justice to evaluate how “just” the Cody-Rouge environment is today.

A sampling of fall 2015 lessons tied to the Rouge Park experience from social studies teacher Josh Sabo.

The *Walk in the Park* project met content and process standards across disciplines



The Next Generation Science Standards are founded on disciplinary core ideas, scientific practices, and crosscutting ideas.*



The emerging C3 Framework for social studies covers civics, economics, history, and geography.



The Common Core Standards for English/language arts include reading, writing, speaking and listening, and language strands.

Standards addressed include those related to:

- Presenting information, findings, and supporting evidence in a manner tailored to the audience
- Discussing issues with others
- Scientific practices including planning and carrying out investigations; analyzing data; constructing explanations and designing solutions; and obtaining, evaluating, and communicating information
- Disciplinary core ideas in the life and earth sciences
- Core topics in the social studies, including civic participation and human impacts on the environment

**Next Generation Science Standards and the related logo are registered trademarks of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards were involved in the production of this product, and do not endorse it.*

“Oftentimes they design the project and then they’re like—wait a minute! We’ve met a hundred standards through this project. Why? Because it’s meaningful, it’s intellectually rigorous, it’s ethically engaging, and emotionally meaningful for the students.”

—Ethan Lowenstein, SEMIS director

Teachers used common assessments, particularly journaling, across subject matters

English/language arts, social studies, and science teachers shared common assessments during the Rouge Park project. One of the most important was journaling. Journaling in the classroom and “in the field” provided a way for teachers to check for understanding, and to encourage students to investigate deeper throughout the project.

“An attentive writing practice can extend perception like a microscope or an ultraviolet light to reveal unseen dimensions of our home places. And eventually, it can create stories that communicate those realities and their significance to other people.”

—John Tallmadge, *Writing as a Window into Nature*



A ninth-grade student records reflections from a trip to Rouge Park.



A Youth Ambassador records his Rouge Park observations in a journal through drawings and writings. Photos: Leisa Thompson

In the spring, partners, teachers, and Youth Ambassadors planned a second, half-day learning experience for ninth graders

The *Spring Skill Building for Stewardship* event ran from 8:45 AM until 12:50 PM, with a follow-up lunch for partners and debriefing session.

Students experienced five learning stations in 40-minute rotations. They studied ecosystem services; had an “engineers-in-training Q&A”; captured water for testing in three area locations; captured soil for testing in five area locations; and

tested their water. In order to gather data and participate in the various skill-building stations, students traveled around DIT and its grounds and into neighboring space, including a park.

Partners that helped design these learning stations included Laura Florence, an independent education consultant, and Nate Ayers of We Are The Forest.



Students test soil at the edge of campus.



Students test water samples from areas around the campus and neighborhood.

In June 2016, Youth Ambassadors and ninth graders returned to Rouge Park to conduct an environmental inventory

Students inventoried basic physical characteristics of Rouge park using photography.

After gaining new skills during the spring stewardship skill building event at DIT, Youth Ambassadors and ninth graders applied these new skills at the park. Students worked with community partners and volunteers to assess types of trees, water quality, air quality, and basic physical attributes of the park. Water quality tests assessed water temperature, turbidity, dissolved oxygen, phosphate, and pH levels. Students also learned more about urban forestry and documented their work with photography.



Students and volunteers measure water quality at Rouge Park.



Examples of pictures that students took during the Rouge Park follow-up trip.

Arts activities over the course of the project helped draw out the voice of the Cody Youth Ambassadors

Spoken word poetry allowed Youth Ambassadors to express themselves to their peers, teachers, and community.

As part of the Youth Ambassador biweekly meetings with SEMIS staff member Lisa Voelker, students explored their own creativity and passion for making a difference in the community. Ms. Voelker used several arts-based activities to draw out students' voices and to empower them to speak about local issues that impact them in their school community and neighborhood.

One of those activities revolved around the use of reflective writing and spoken word poetry. The *I Am Poem*, written by a group of Youth Ambassadors, is a product of many discussions about what it means to have a voice and to stand up for what is important to students. It represents how students feel about themselves as agents of change and positive influence at DIT, and expresses some of the pressures of not being recognized or valued.



GLSI Guiding Principle 9: Incorporate opportunities for students to develop and clarify their personal values related to nature and community, and to develop the social competencies essential to stewardship.

I AM Poem by CODY-DIT Youth Ambassador Leaders

*Youth Ambassadors are leaders.
YAs wonder why it's so hard to make a change?
YAs hear "sirens" in our hallways...
YAs see barricades—they tell us yes, tell us no...
YAs want diversity, difference, innovation, transformation!
YAs are the student voice.*

*Youth Ambassadors pretend we can handle it all.
YAs feel youth should have a REAL voice!
YAs touch the hearts and minds of others.
YAs worry about not filling a role that you think we should...
YAs cry about the pressure and the lack of acknowledgement.
YAs are just like everybody else—we are human too.*

*Youth Ambassadors understand the importance of positive change.
YAs say we want to make a change/make a difference/make a difference in others' lives/our voice can make a difference—
YAs dream of a world where youth voice is more valued and we are acknowledged
YAs try to realize their part—?
YAs hope they inspire and have great influence on other youth—?
YAs are the future!*

Youth Ambassadors presented at numerous conferences during the two-year project

Youth Ambassadors have become recognized as leaders, citizens, and experts as they have honed their presentation and public leadership skills.



Youth Ambassadors speak at the 2015 Semis Community Forum.

Cody Youth Ambassadors made several presentations highlighting their place-based stewardship work and the development of their voices within the community.

In addition to their 2015 Community Forum presentation and leadership during the SEMIS Coalition's 2015 summer institute (featured on page [21](#) of this document), Youth Ambassadors presented at the GLSI Place-based Education Conference in Grand Rapids in November 2015 and attended the My Brother's Keeper Michigan Summit in Lansing in December 2015. The Ambassadors

additionally attended the November 2015 Eastern Michigan University *Building Strong Urban Schools* Summit in Ypsilanti and the 2015 State of the Strait conference in December to learn more about issues affecting local waterways and restoration solutions.

In the spring of 2016, Youth Ambassadors and DIT ninth graders led presentations at the SEMIS Community Forum on their efforts to revitalize an abandoned lot across the street, which emerged during the *Walk in the Park* discussions, and on the development of Youth Voice and leadership.



*Part II —
Additional PBSE Activities at DIT*

DIT students engaged in multiple place-based stewardship efforts in addition to their *Walk in the Park* project

At DIT, there are numerous projects and initiatives happening every day. The Youth Ambassadors are often at the center of multiple, variously themed efforts across the school that have been funded and supported by multiple sources and partners.

Although this case study focuses on the development of a collaborative student- and teacher-planned series of PBSE experiences at Rouge Park, students were also involved in several other place-based projects during the 2015–16 school year. These included:

- Construction of a community bioswale
- Fall Harvest Celebration
- Schoolwide recycling program
- Spring Thing at Cody
- Re-Creation Day
- Demolition of two abandoned homes across the street from the school



*Youth Ambassadors see themselves as a team and strive to impact their entire community.
Photo credit: Leisa Thompson*

In fall 2015, Youth Ambassadors joined the Greening of Detroit and other DIT students to construct and plant a bioswale

The bioswale will help to filter storm water runoff and reduce flooding.

Members of the Youth Ambassadors program joined a team of fellow DIT students known as the “Green Team” in constructing and planting a bioswale just a couple of miles from DIT. The Green Team members, generally speaking, are different students than the ninth-grade Youth Ambassadors who participated in the Rouge Park effort, but there is some overlap.

A bioswale is an area of land that is gently sloped and landscaped with plants that help to filter pollution and manage stormwater runoff during periods of rain. The structure is expected to mitigate flooding in the community.



DIT students dig during the bioswale installation. Planned and facilitated by SEMIS' partner, the Greening of Detroit, the bioswale project was funded by the Joy-Southfield Community Development Corporation and the Kresge Foundation. Photo: Detroit Unspun and the Hub, <http://blog.thedetroithub.com/>

Recycling and gardening efforts are ongoing at DIT



Schoolwide recycling

In 2014, Youth Ambassadors coordinated with other groups in the school to collect recycling from classrooms and take it to a processing facility off-campus. In 2015, due in part to the success of their work, a recycling dumpster was brought to the school.

Fall Harvest Celebration

Cody DIT ambassadors planned this event for nearly 100 people in celebration of the DIT gardens and collaborative work of students, teachers, families, and partners. Guests took home tomatoes, peppers, collard greens, and pumpkins from the gardens.

Two spring events made the Cody campus more sustainable and pleasant



Re-Creation Day

Volunteers and students installed an outdoor classroom, built accessible raised-bed gardens and conducted other service projects on site.



Spring Thing at Cody

Students, community partners, teachers, and other volunteers worked together to plant garden beds, create a tire garden, upcycle tires, build benches, clean recycling bins, prep hay bale gardens, and install a rain collection system for the gardens.

Students and partners worked to remove blight and create a space for a new park

DIT Youth Ambassadors led a successful effort to demolish abandoned homes.

In 2015, Youth Ambassadors helped prompt the demolition of two long-abandoned houses near their school by persistently contacting local government offices and expressing concerns for youth safety and neighborhood aesthetics. Some of the ambassadors also participated in a Youth Council through the Cody Rouge Community Action Alliance, a successful community initiative in the area, to get more than 30 buildings demolished and another 120 boarded up. Subsequently, the Youth Ambassadors and additional community partners secured a \$25,000 planning grant for the redevelopment of the property.

The redevelopment will be a long-term effort, and is being coordinated by DIT's Partnership Advisory Council (see page [45](#)).



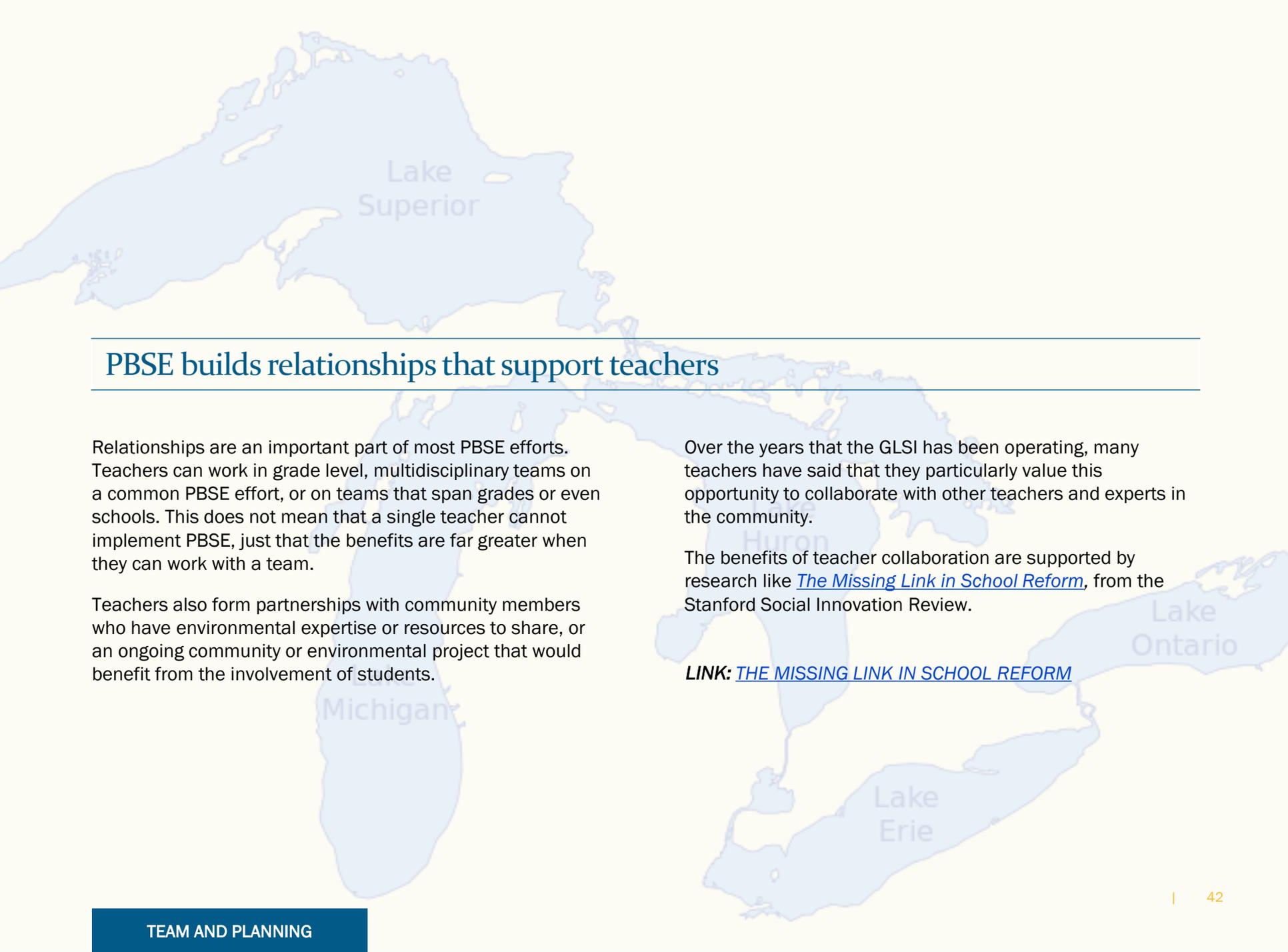
One of the abandoned houses, at 8900 Faust, that was demolished with the leadership of DIT Youth Ambassadors. Photo: Chad Segrist.



The view of the second abandoned home after 8900 Faust was demolished. Photo: Scott Lananna.



Team and Planning



PBSE builds relationships that support teachers

Relationships are an important part of most PBSE efforts. Teachers can work in grade level, multidisciplinary teams on a common PBSE effort, or on teams that span grades or even schools. This does not mean that a single teacher cannot implement PBSE, just that the benefits are far greater when they can work with a team.

Teachers also form partnerships with community members who have environmental expertise or resources to share, or an ongoing community or environmental project that would benefit from the involvement of students.

Over the years that the GLSI has been operating, many teachers have said that they particularly value this opportunity to collaborate with other teachers and experts in the community.

The benefits of teacher collaboration are supported by research like [*The Missing Link in School Reform*](#), from the Stanford Social Innovation Review.

LINK: [*THE MISSING LINK IN SCHOOL REFORM*](#)

A diverse team of teachers and community partners have supported *A Walk in the Park* and other place-based education at DIT

Teachers

Chad Segrist teaches ninth-grade science at Detroit Institute Technology at Cody High School, and served as the focal teacher for this case study. Mr. Segrist also initiated the Youth Ambassadors program. **Ron Tracy** teaches ninth-grade English/language arts, and **Josh Sabo** teaches ninth-grade social studies and American history. Both participated in the *Walk in the Park* project. **Tanya Burachi** is the whole school College Readiness advisor and participated in this effort as well as multiple other events with the Youth Ambassadors.

Partners

Justin Schott and his team, the Detroit Youth Energy Squad, a program of EcoWorks, have been active partners in multiple DIT and SEMIS projects and programs over several years. Justin is the executive director of **EcoWorks**, a nonprofit organization in Detroit whose mission is to create opportunities to learn and practice the sustainable use of energy and natural resources through innovative education, job training, consulting, social business, and advocacy. **Anna Balzer** and **Stevie Chilcote** supported students in the field.

Matt Siegfried is a local historian with extensive knowledge of the history of land, water and people of Southeast Michigan. He is active in historical and youth initiatives in his local community of Ypsilanti, Michigan, and helped students appreciate the history of Rouge Park.

Laura Florence is a natural resources professional specializing in Great Lakes education and outreach. She has worked with the National Oceanic and Atmospheric Administration (NOAA) Great Lakes Environmental Research Lab, Michigan Sea Grant, and the Great Lakes Commission. **Nate Ayers** is a founder of We Are The Forest, a hands-on, problem-based learning experience that teaches students to connect and engage with the natural world, while gaining skills in environmental stewardship, ecological restoration, and community service. Laura and Nate helped design learning stations for DIT students' spring "Skill-Building for Stewardship" event and the follow-up event at Rouge Park.

Students in the **Eastern Michigan University Teacher Preparation Program** met onsite at DIT with their teacher, Dr. Ethan Lowenstein, and supported teachers and staff on event days as they learned.

Makena Schultz is a Michigan State University Extension educator. She worked extensively with the Youth Ambassadors.

Jac Kyle led the Greening of Detroit's work on the community bioswale.

Scott Lananna has been an integral organizer and collaborator in the Partnership Advisory Council at DIT. He is an HV battery technical specialist and project lead at **General Motors**.

Numerous other partners support special initiatives at DIT.

Preservice teachers from EMU learned in place while supporting teachers and students at DIT

Twenty preservice students in the College of Education had their weekly methods course at DIT in fall 2015.

Youth Ambassadors and ninth graders worked regularly with preservice teachers placed within the school as part of Dr. Ethan Lowenstein's curriculum methods course at EMU.

The students and Dr. Lowenstein met as a group for part of the day, and assisted teachers in several classrooms in their remaining time. Preservice teachers participated in the *Walk in the Park* effort. Several of the preservice teachers maintained relationships with the school beyond their fall semester at DIT.



EMU preservice teachers in class with Dr. Ethan Lowenstein at DIT. Photo: Lisa Voelker

“Powerful place-based stewardship education requires a dense network of partners who can work together to provide sustained, cohesive support to teachers, administrators and students.”

—Ethan Lowenstein, SEMIS director



Youth Ambassadors built leadership skills and honed their voices with support from Michigan State University Extension

DIT Youth Ambassadors received direct and sustained support from SEMIS Coalition partner Makena Schultz, an educator with Michigan State University Extension. Makena specializes in youth leadership and developing youth voice, and led sessions with the Ambassadors to help them develop as leaders and express their ideas, goals, and perspectives at DIT.

MSU Extension's Makena Schultz (bottom right) with teachers Chad Segrist (top right) and Tanya Borachi (bottom left), and the Youth Ambassadors. Photo: Leisa Thompson

DIT has a Partnership Advisory Council (PAC) that coordinates partners

The group works to foster collaboration among the many community partners working in DIT.

DIT has attracted numerous community partners because of its STEM focus and because of the desire of southeast Michigan companies to support Detroit schools. While partners are a great asset to schools, too many partners with too many simultaneous ideas can become overwhelming. The Partnership Advisory Council (PAC) was created to streamline and coordinate the community partners engaged in work at DIT.

The PAC meets regularly to discuss ongoing and upcoming projects. The SEMIS Coalition has played a coordinating role in the PAC, helping ensure that projects are cohesive and connected to student learning goals. Partners have brought financial and academic resources to DIT that have expanded programs and options for students. Many of the afterschool programs are facilitated by partners. For instance, GM holds volunteer days for school beautification projects, and Square One Education Network hosts and supplies material resources for an innovative vehicle design competition.

Youth Ambassadors attend PAC meetings and work with members to design projects that will provide solutions in the community.

Members of the DIT Partnership Advisory Council

Private Sector

- ABB, Inc.
- BASF
- Bosch
- Denso
- Deloitte
- Ford Motor Company
- General Motors
- Materialise, Inc.

Nonprofit

- Cody-Rouge Community Action Alliance
- Cranbrook Institute of Science
- EcoWorks
- Friends of the Rouge
- The Greening of Detroit
- Joy Southfield Community Development Corporation
- Linked Learning Detroit
- Square One Education Network
- U.S. Green Building Council

Higher Education

- Wayne State University College of Creative Studies
- Grand Valley State University
- Michigan Sea Grant
- Michigan State University Extension
- Michigan Engineering Zone at University of Michigan

Government

- Michigan Department of Transportation
- United States Forest Service

Multisector

- The SEMIS Coalition

The *Walk in the Park* project created an opportunity for the ninth-grade team to collaborate on an interdisciplinary learning experience

“Relationships and real student work in the community have flourished in the last year.”

—Chad Segrist, lead teacher



The ninth-grade teacher team at DIT meet and plan while attending the 2015 GLSI Place-based Education conference in Grand Rapids.

Lead teacher Chad Segrist and other teachers in the ninth-grade team wanted to collaborate for many reasons. They hoped to reach more students through place-based education experiences during the school day; connect students at DIT to Rouge Park; develop student voice and facilitate students' civic action in the community; and use and coordinate the support of community partners more effectively.

Youth Ambassadors and teachers spent an entire day planning together before the beginning of the school year, and

several follow-up meetings also took place. As a result of the collaboration between the ninth-grade teachers and the Youth Ambassadors, new curriculum units were created to support place-based activities in science, social studies, and English/language arts classes.

The project marked an important transition for PBSE at DIT, because it moved the experiences from an afterschool club into the regular school day and provided deliberate interdisciplinary connections.



Impacts of the Project



PBSE offers deep learning and community enhancement

One of the key principles of PBSE is that when students are able to create tangible, meaningful benefits for the community and the environment through their own efforts, they benefit academically. Not “either or,” but “both and.”

This win-win quality of PBSE makes it particularly attractive when resources for community and environmental enhancement are scarce, and when schools are challenged to meet new, higher expectations for student learning.

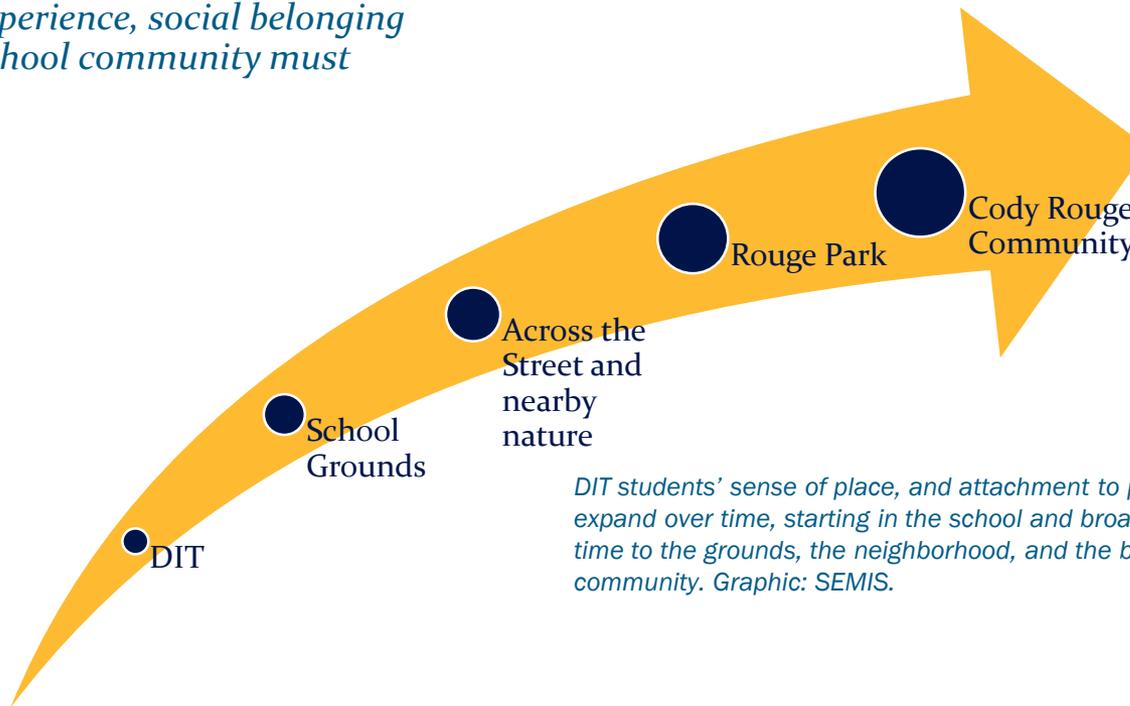
Involving students in their communities makes learning more *relevant* and *engaging*. Students are intrinsically motivated to learn when the work is interesting and consequential.

Students participating in PBSE efforts supported by the U.S. EPA grant to the Great Lakes Stewardship Initiative participated in pre- and postexperience surveys, pre- and postexperience tests, and other data-collection efforts to document their responses to these opportunities. Teachers chose from among three subject-matter tests—a test of Great Lakes knowledge, a test of general ecological literacy, or a test of civic knowledge.

This section explores the benefits to the Cody-Rouge community and environment achieved through PBSE at the Detroit Institute of Technology at Cody. It also reviews selected findings regarding student impacts.

For DIT students, a connection to nature in the broader community takes time to develop

In SEMIS' experience, social belonging within the school community must come first.



DIT students' sense of place, and attachment to place, can expand over time, starting in the school and broadening over time to the grounds, the neighborhood, and the broader community. Graphic: SEMIS.

In the evolution of community and environmental stewardship at Cody DIT, one key theme has emerged: in this urban setting, developing a sense of place and stewardship ethic for the natural environment requires, first and foremost, a development of a sense of belonging in a student's social

community within their school. Only when students feel connected to their place at school and become engaged in environmental and social challenges that matter to them there can they begin to focus on and care about the natural environment in the larger community.

Through DIT's Youth Ambassador program, students feel connected at school, and begin to connect to the broader community

The Cody Youth Ambassador Program at DIT has provided students with this sense of belonging and purpose within their school that has allowed them to think bigger and care more deeply about the community and environment beyond their school walls.

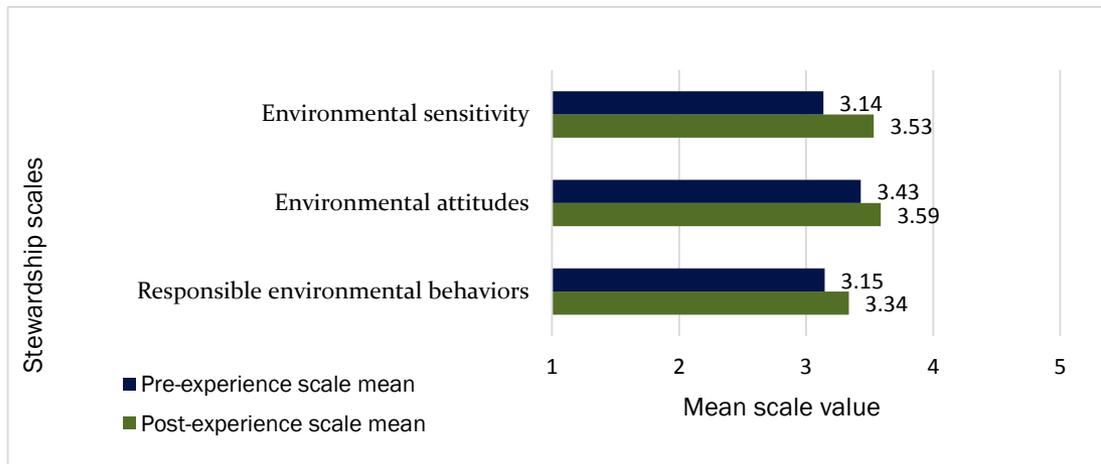
Over the past four years, the Youth Ambassadors have strengthened their voices as leaders and experts in the community, forged new relationships with multiple community partners, taken on projects farther from the school, and encouraged other students to join them in their stewardship work.



Ninth-grade students reflect on their experience in Rouge Park with SEMIS staff and community partners. Photo: Leisa Thompson

Pre/postsurveys for some participating DIT students revealed growth in environmental sensitivity, environmental attitudes, and responsible environmental behaviors

Many students did not complete both a preexperience and postexperience survey, so results must be cautiously interpreted.



Pre/postsurvey results for DIT students in 2014–15 and 2015–16 for three of six scales. Twenty-six students with a matched pair of surveys are included in the analysis.

Participating students at DIT took surveys at the beginning and end of the year, and surveys were used in both 2014–15 and 2015–16. The surveys contained multiple “agree or disagree” questions that, as a set, measured key aspects of environmental stewardship (see box, right). The scales ranged from 1 to 5, with larger values representing a stronger stewardship position. Each scale represents a student’s averaged responses to several thematically related

questions.

Students at DIT improved on all three of the stewardship attributes reviewed here. The effect size of the changes ranged from 0.29 (small) to 0.57 (approaching large). An effect size is a standardized measure of change based on the standard deviation—an effect size of 0.5 is a change equal to half the standard deviation of the underlying scores.

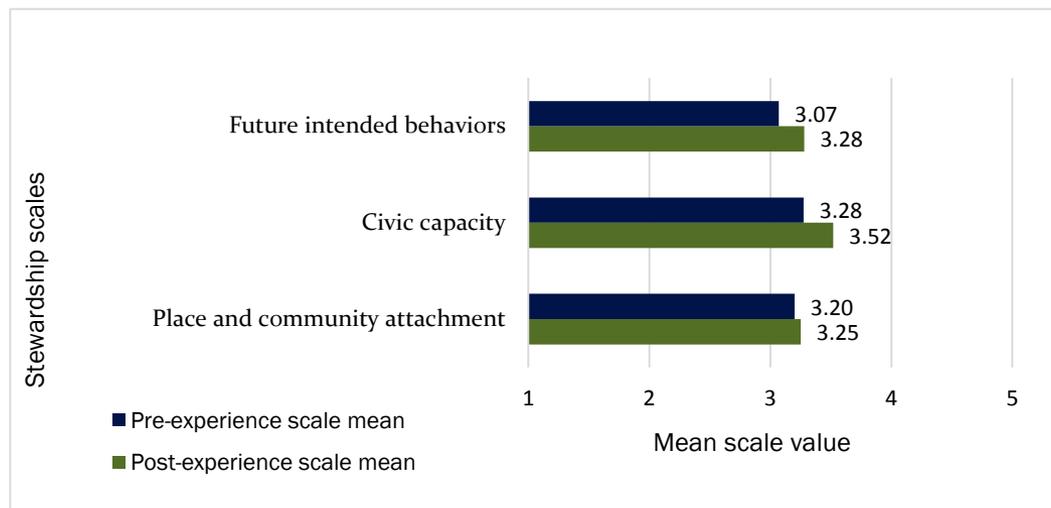
Meaning of the Scales

Environmental sensitivity is a feeling of care for nature and connection to nature.

Pro-environmental attitudes are a set of beliefs about the importance of environmental protection and conservation.

Responsible environmental behaviors are choices (such as turning off the water when brushing one’s teeth) that are within our capacity to make, and that are beneficial for the environment.

DIT students' pre/postsurveys also revealed growth in civic capacity and intentions for pro-environmental behaviors in the future



Pre/postsurvey results for DIT students in 2014–15 and 2015–16 for three of six scales. Twenty-six students with a matched pair of surveys are included in the analysis.

The surveys also contained multiple “agree or disagree” questions that, as a group, measured place and community attachment, civic capacity, and future intended behaviors (see box, right, for more detailed definitions).

Students at DIT exhibited small to moderate gains in civic capacity and future intended behaviors, with effect

sizes of 0.31 and 0.32, respectively (see page 52 for a definition of effect size).

Overall, the 26 DIT students surveyed showed multidimensional gains in stewardship attributes, with the greatest gains in environmental sensitivity, or affinity to nature. These results are consistent with the project’s focus and activities.

Meaning of the Scales

Future intended behaviors measures students’ expectations about what they will be willing to do in the future to protect the environment, such as considering the environmental policy positions of candidates for public office when voting, making contributions, working locally, and speaking with others.

Civic capacity includes a set of competencies related to participation in community life and decision making, such as documenting a problem, organizing meetings, speaking in public, and reaching out to others in the community.

Place and community attachment includes the sense that a place or community is “part of me,” that one is known in the community, and that the community is a good place to do “what I like to do.”

Pre/post changes in environmental knowledge were measured through the GLSI's tests of civic knowledge

The tests present fictional proposals for new environmental laws in fictional communities and ask students to analyze the issues, reflect, and react.

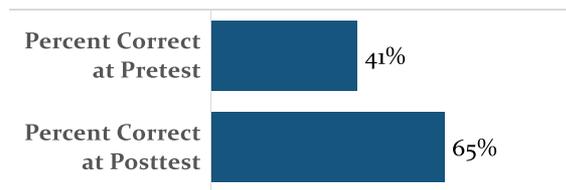
DIT students were asked about a proposed ban on the sale of bottled water in the fictional community of Greendale, and a proposed new set of “green” building standards in the fictional community of Anytown. Each student completed one of these tests (focusing on one issue) in the fall and the other at the end of the year.

In each test, students read about the proposed new local law, and about testimony given by four or five community members or groups at a public hearing about the issue. Students were presented with a multiple-choice question in which they chose the one statement that best expressed the issue or controversy before the community.



The GLSI's vignette-based tests asked students to consider proposed local legislation related to the sale of bottled water and to “green” building standards in fictional communities. Image: © AR Images/Adobe Stock.

Pre/Post Issue Identification



Students' ability to identify the core issues in the vignettes improved substantially between the pretest and posttest.

Students' postprogram essays had better reasoning and were more likely to mention the environment than their preprogram essays

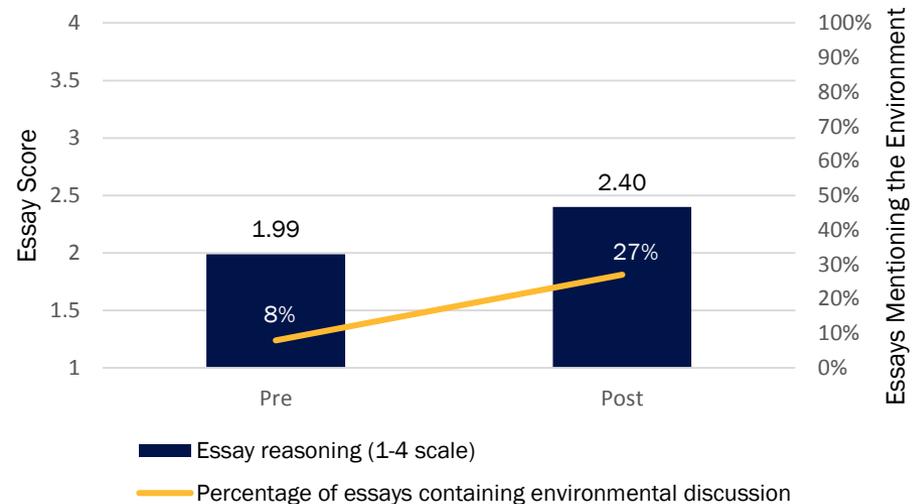
Each test of civic knowledge concluded with an essay in which students considered how they would feel were a similar proposal to emerge in their home communities.

In their essays, students considered how they might feel if their home community of Detroit was to contemplate banning the sale of bottled water or adopting “green” building standards. They were asked, “Would you support such a policy, or would you be opposed? Please write a paragraph in which you describe your point of view. Include at least two reasons that you would choose to either support or oppose the change.”

As shown in the graphic, the quality of essays improved, although it should be noted that students struggled to respond to these proposals. Students were more likely to incorporate an environmental reason to support or oppose the proposals in the spring than they had been in the fall.

Another part of the test presented students with six different actions a citizen could take whether he or she was opposed or in support of the proposed policies, and instructed them to select the most effective two actions. Scores improved very modestly, from 5.67 to 6.00 (out of 12 points possible). Students also improved modestly in their ability to classify arguments for or against the proposals as environmental, economic, social, legal, or egocentric in their perspectives.

Pre and Post Essays: Reasoning Score and Percentage Considering the Environment



Students completing both a pre- and postprogram test (27) scored 1.99 out of a possible 4 on the reasoning in their essays in the fall, and improved to 2.40 in the spring. The effect size was 0.45 (moderate). Eight percent considered environmental consequences of the fictional proposals when responding to the pretest, while 27 percent mentioned environmental considerations on the posttest.

Students responded to writing prompts while on site at Rouge Park, and their writings offer insight into the outcomes of the experience

Students wrote about many of the natural elements of the park as well as the beauty of nature.

Students responded to five written prompts while on site at Rouge Park (see page [26](#) for a description of the journaling activity).

A few of the responses are incorporated here as examples of the variety of themes that students expressed.



Students reflect on site while historian Matt Siegfried describes the history of the site. Photo credit: Leisa Thompson

1. What are 3 things you noticed while you were at the Rouge Park?

- 1.) The rushing water
- 2.) The broken tree branches.
- 3.) The glowing leaves

2. What are 2 things you found interesting about this trip?

- 1.) The 5-min hike through the woods,
- 2.) The talking

3. What is one thing you saw or learned at the park that made you think in a new way about the Cody-Rouge neighborhood? Why?

One thing I saw or learned at the park that made me think in a new way was the rushing water flowing through the river.

And this is why:

Because the sun was making the water glisten and it looked beautiful

Many students expressed a sense of responsibility and a desire to take action to clean up and protect the park

Students also commented on natural features of the park, such as the “amazing forests” and the “wet grass,” as well as the trash and pollution they saw there.

5. What are 2 things you would tell a friend who didn't go on the trip, about the Rouge Park:

I would tell a

friend that it was not only fun, the forest had a lot of
rugs and cut down trees. There a lot of bugs the
grass was wet. It was a huge hill, & the water
was pretty and there was alot of trash.

5. What are 2 things you would tell a friend who didn't go on the trip, about the Rouge Park:

I would tell a

friend that you should come see the amazing
forests, and that we should form an
organization to really help the rouge park.



Students reflect on site while historian Matt Siegfried describes the history of the site. Photo credit: Leisa Thompson

Scanned examples of student reflections from the visit to Rouge Park.

One student made a strong connection with personal heritage

The history of a place like Rouge Park can surface connections to students' heritage, as occurred for this student.

3. What is one thing you saw or learned at the park that made you think in a new way about the Cody-Rouge neighborhood? Why?

One thing I saw or learned at the park that made me think in a new way was that there was a bridge over the Rouge River that is now gone, but used by the Indians.

And this is why:

My great grandmother, father is a full Indian and I would like to know if he was one of the Indians who ~~was~~ navigated through Rouge Park.



Historian Matt Siegfried describes the Native American heritage of a site within Rouge Park that is the former location of a bridge over the Rouge River. Photo credits: Leisa Thompson

Many students said they used to feel powerless or apathetic about environmental stewardship and Rouge Park

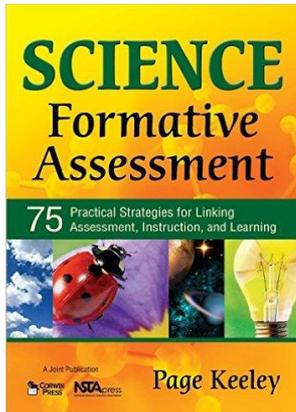
As part of the evaluation for the GLSI's U.S. EPA grant, 18 students at DIT completed a worksheet with three prompts:

"I used to think"

"Now I know"

"This is how I learned it"

These ninth-grade students were instructed to focus their answers on stewardship. Key themes in their responses included the inability to make change, a lack of connection to nature, a lack of awareness of environmental challenges, and a lack of awareness of, or interest in, the park. Examples of what they "used to think" are shown at right.



LINK: [SCIENCE FORMATIVE ASSESSMENT: 75 PRACTICAL STRATEGIES FOR LINKING ASSESSMENT, INSTRUCTION, AND LEARNING](#)

The worksheet prompts were derived from a formative assessment in this 2008 text.

What ninth-grade students used to think about stewardship:

- "That we as a community could not do anything to help our environment. Also, that we had to leave it up to the scientists to fix everything."
- "I used to think that students and teens couldn't change things in their community."
- "I used to think that environmental things was a waste like planting plants and etc."
- "That nature was useless and didn't have nothing to with me or my future."
- "That nature is dumb it didn't matter to me at all because it wasn't connected to me. I use to think littering was cool."
- "I used to think that there weren't very many places to see nature without human intervention."
- "At Rouge Park I never knew about the part where the river was."
- "I used to think that Rouge River was nothing and that it was just a dirty river that flows through the Cody-Rouge area."
- "I used to think that everything was fine in the environment except for pollution. I thought only the air and water was the problem."
- "The park was empty and nobody ever visited it."

After their experiences, students said they “now know” that they can make change, or that the environment is important, or that Rouge Park is a good place to visit

What students now know about environmental stewardship:

- “We make our community. Without us, there is no community. So we have to make our neighborhood safe for our further generation (clean water, etc.)”
- “But now I know that anyone even kids can do and change things in there community that is wrong.”
- “Nature is all around us and we are not keeping it clean enough to help nature survive. That our water system at Rouge is highly polluted and we can change it.”
- “Now I know that [the] environment is important to this community.”
- “It’s easy and simple. We can improve our community easily, and most people don’t even make an effort.”
- “That the people who really care about the community should stick/stand together to make the community a better place to where children can live and be safe.”
- “That there are many places to see a lot of plants and animals around Michigan.”
- “That nature is a very big thing because that’s where we get all the beautiful trees from and you shouldn’t mess nature up.”
- “That nature has everything to do with me how good I live and my future depends on nature.”
- “Now I know more about Rouge Park than I ever knew. About the back area where the hill was, the river back in the woods, the marsh, and even snakes could be found in the area.”
- “That the park is full of trees, animals and that there are a lot of people that take care of it.”
- “But I know that park is the best place to go to I had to much fun there I could love to go again.”

The students said they learned these things through field trips or direct observation (11 students); from instruction by their teachers or community partners (eight students); or through participating in activities like

planting or water quality testing (five students). Some students expressed more than one way in which they gained new ways of thinking about stewardship.

The themes of empowerment, community connection, and heightened awareness of nature were also found in students' free-write comments in other contexts

"The work you gave us helped me learn the importance of my environment and community... and how I have been polluting for years in ways I didn't know...SEMIS also made me think about the world in a different/better way that could help future generations."

"I learned if I put my mind to anything I can do it. The things I did this year [were] so much fun. My community has a lot to give and gain. We put so much in to it. We help in every way that we can and we do well at it."

"I learned the different instruments used in science and how to use them. It is very interesting [to] me and I would like to learn more about it."

"I learned that I care about nature more and that [there] is more to nature than just trees. We need to clean our water system and start a new recycle group ..."

"I learned that I enjoy exploring nature and taking pictures of the scenery."

"I learned that I can make a difference in my community and I learned about how I can speak up in a group and with people that I hardly even know. The people ...help[ed] me understand that I can push beyond the horizon to participate in things that would never imagine doing ever in my life. I found that nature is a very precious thing to have because it can soon die off and eventually never come back."

" This year I learn[ed] about lots of problems [in] our side of Detroit. I learned about the AOCs (Areas Of Concern) inside of the River Rouge. And how a young man like me can change my community but not by myself. I also learn[ed] that I have voice and I speak out about problems in my community."

"I think the work we did was very important because it helps to inspire other people around our community and younger generations."

Open-ended comments at the end of the 2015-16 online student survey emphasize making change, caring for nature and the community, and more.



Gibran Washington of D-YES works with students to use water testing equipment. Photo: Leisa Thompson

“Being a part of SEMIS Coalition has not only taught me to be open to take care of our environment, but as a person, student, and member of society, it allowed me to have an open mind about the things that are happening in our local parks and trying to come up with a solution to fix them.”

—DIT student

Identifying environmental issues in Rouge Park inspired students to do more to clean up and remediate other natural areas in their community



*A view of the bioswale that students built to mitigate flooding at the edge of Stein Park.
Photo credit: Lisa Voelker*

[LINK: MEDIA COVERAGE OF THE BIOSWALE AT DETROIT UNSPUN/THE HUB](#)

The Rouge Park experience opened students' eyes to the role of nature in their community. Cleaning up the park is just one environmental benefit expected from the project.

As students envisioned what a healthy Rouge Park should look like, they took part in beautification

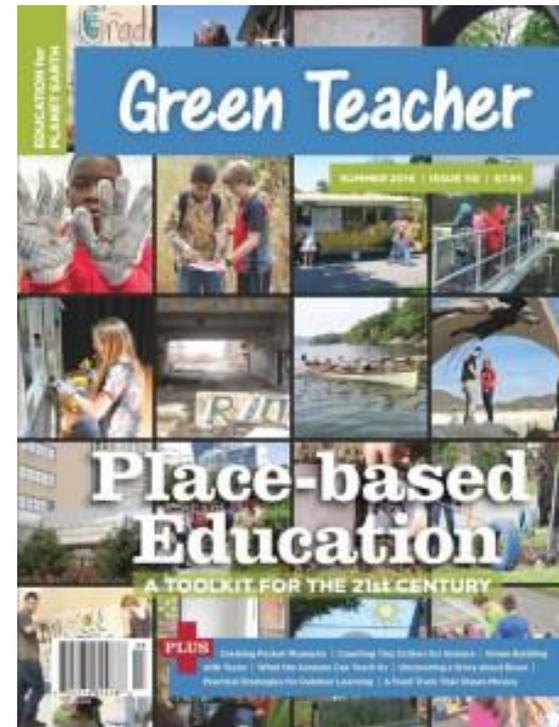
projects around their school grounds and community—such as installing gardens, planting trees on Belle Isle, and creating a community bioswale. The bioswale was designed to filter up to 6,000 gallons of water during storms, decreasing both basement flooding in homes and pollution in the watershed.

The Youth Ambassadors authored an article in *Green Teacher* with SEMIS staff and their teacher, Mr. Segrist

The article was published in the summer 2016 edition of the online magazine. An excerpt follows:

“In Place-based Education (PBE), youth have the opportunity to shape their realities and determine the course of their learning as they build their capacities as community leaders. Together our team of students (The Youth Ambassadors) at Detroit Institute of Technology (DIT), teachers and Southeast Michigan Stewardship Coalition staff work together throughout the school day and in an after-school program to build community and infuse place-based education into school curriculum. In this article we aim to share the ideas, tools, and processes that we’ve found useful. Often urban youth are the least ‘seen’ for who they are and who they want to be. They have a lot to teach and a lot to learn, as do the adults who grow with them.”

LINK: [FULL ARTICLE IN GREEN TEACHER](#)



“Fostering Youth Leadership in Urban Places”

Ethan Lowenstein, Lisa Voelker, Jonice Sylvester, Aniya Roundtree, Kianna Harris, Chad Segrist, Rebecca Nielsen, and the Cody Youth Ambassadors

The project helped connect students, teachers, and partners to one another with positive outcomes for all

The *Walk in the Park* project united several partners around the common goal of helping the students discover Rouge Park and take action to make it a better community space. SEMIS' coordination of DIT teachers, EMU student teachers, the Greening of Detroit, EcoWorks, We Are The Forest, and independent education consultant Laura Florence gave students a positive experience, and allowed partners the opportunity to work together and build joint capacity. These partners are now interested in doing more work with DIT and each other because of this experience.

As part of this project-based community, Dr. Ethan Lowenstein conducted his EMU Methods and Practicum classes at DIT for the first time, bringing in a cohort of young preservice teachers to support students and DIT teachers, and to learn the craft of teaching in a dynamic urban environment.

DIT students have frequently commented, in their written reflections, that they have enjoyed the opportunity to learn about Eastern Michigan University and to interact with professors and professionals in the field.



Students and new partners gather to design a new park in the neighborhood.

“I have been given firsthand knowledge of what it means to the students, teachers and community to have strong passionate teachers in the classroom, and watching teachers like Mr. Segrist and Mr. Tracy do their work inspired me to continue my education so I can give myself to a community that can use my talents.”

—EMU preservice teacher

Youth Ambassadors have gained confidence, poise, and leadership attributes

Youth Ambassadors developed their interpersonal and leadership skills with community partners, peers, and teachers.

During the 2014–15 school year, Youth Ambassadors examined their role as school leaders and developed confidence through safe, mentored experiences in the community. Lead teacher Chad Segrist constantly reminded students to put their best foot forward. He stressed the importance of assertive introductions, eye contact, professional conduct, and a positive attitude. Students were given repeated opportunities to practice these new skills in real situations, such as PAC meetings, multiple conferences in the Metro Detroit area, and daily interactions with community members involved in Youth Ambassador projects like *A Walk in the Park*.

SEMIS partner Makena Schultz of MSU Extension worked with students to develop student voice and leadership skills and supported students in their communications with the administration and the community. During the 2015–16 school year, students met biweekly with SEMIS staff member Lisa Voelker to gain presentation skills in preparation for conferences, and learned additional organizational skills for planning school-based community-wide events, such as Re-Creation Day.



“We have seen that when people have a higher expectation for us, then it makes us have a higher expectation for ourselves.”

—Youth Ambassadors Jonice, Anaya, and Kianna, in Green Teacher



“...Here are these teachers that don’t even know me, but have proven on many occasions that they care about me. I have become a better student because I know there are people who truly are invested in me and my education. It makes me feel good that someone who barely knows who I am can care the way SEMIS, the preservice teachers, and EMU does...I don’t want you to go. We need teachers that care.”

—DIT student

SEMIS Coalition director Ethan Lowenstein shakes the hand of a DIT student.

Other PBSE efforts could yield a different set of benefits

There is a lot of freedom within the PBSE framework, so many benefits are possible depending on the direction taken.

BENEFITS OF PLACE-BASED STEWARDSHIP EDUCATION CAN INCLUDE:

STUDENT ACADEMIC GAINS

- Improved academic scores and grades
- Improved critical thinking skills
- Increased engagement in school and motivation for achievement
- Increased professional skills, such as leadership, persistence, taking responsibility, teamwork, developing plans to reach a solution, managing time, motivating others, and dealing with unexpected challenges
- Deeper learning and action competence
- Increased awareness of career options

POSITIVE YOUTH DEVELOPMENT AND STEWARDSHIP GAINS

- Social-emotional development, including increases in self-esteem, a sense of empowerment and agency, social interaction skills and capital, and awareness of cultural diversity
- Sense of place and community attachment
- Civic-democratic competencies and

attributes

- Pro-environmental attitudes
- Environmental sensitivity and awareness
- Responsible environmental behaviors

TEACHER BENEFITS

- Opportunity to pursue their interests and advance their values
- Skill development
- Motivated students

SCHOOL AND DISTRICT BENEFITS

- Teacher engagement and satisfaction
- An integrated option to reach numerous and robust standards and curricular priorities as well as youth development priorities
- Increased awareness from the community of the conditions, needs, and efforts of the schools
- Stronger connections with community-based organizations, parents, and individual community members
- Access to grants, funders, and recognition

PARTNER ORGANIZATION BENEFITS

- Engaged youth and schools in their work
- Raised awareness of the mission
- Increased capacity
- Networks with other organizations in the field
- Access to grants, funders, and recognition

LOCAL BENEFITS

- Community revitalization and environmental improvements
- Sense of place
- Social capital and community capacity



Support from the Hub



The GLSI works through regional hubs

Regional hubs implement the GLSI's three core strategies—they deliver professional development for PBSE educators, foster partnership between schools and communities, and provide direct support for PBSE experiences.

The GLSI currently has nine regional hubs throughout Michigan. Some work with predominantly rural communities, some with urban communities, and some with various

communities that span the urban-rural continuum.

Hubs have the local knowledge and relationships needed to adapt the strategies to the needs and culture of the local area.

[LINK: GREAT LAKES STEWARDSHIP INITIATIVE](#)

The Southeast Michigan Stewardship Coalition works with schools in the Detroit metropolitan area, including Ann Arbor



The Southeast Michigan Stewardship Coalition works with teachers from diverse schools and community organizations in the Detroit area to help young people become citizen-stewards of their local communities and the Great Lakes region, and to create visionary educational communities that can address the interrelated social and ecological challenges we all face. SEMIS has sought to understand and support place-based stewardship education in urban places and to share with other educators the ideas, tools, and processes that can be successful in this complex setting.

SEMIS was one of the first GLSI hubs, established in 2007. The

hub serves schools within the Rouge, Clinton, Detroit, Raisin, and Huron River watersheds. SEMIS is housed at Eastern Michigan University (EMU) and is guided by director Ethan Lowenstein, program director Rebecca Nielsen, and assistant director Lisa Voelker. The hub also receives significant support from graduate students and staff within the EMU College of Education and the EMU Institute for the Study of Children, Families, and Communities.

LINK: [SOUTHEAST MICHIGAN STEWARDSHIP COALITION](#)

Hubs implement three core strategies for stewardship

Each GLSI hub provides a program of sustained professional development, brokers school-community partnerships, and supports place-based education. Their strategies are not inherently tied to environmental stewardship—that theme and content must be infused into each aspect of the work.

The GLSI's hubs have developed approaches that reflect the environmental character and needs of their respective communities, the interests and goals of their school districts, the strengths of the hub staff and the host organization, and the mix of community organizations engaged in stewardship work with youth.

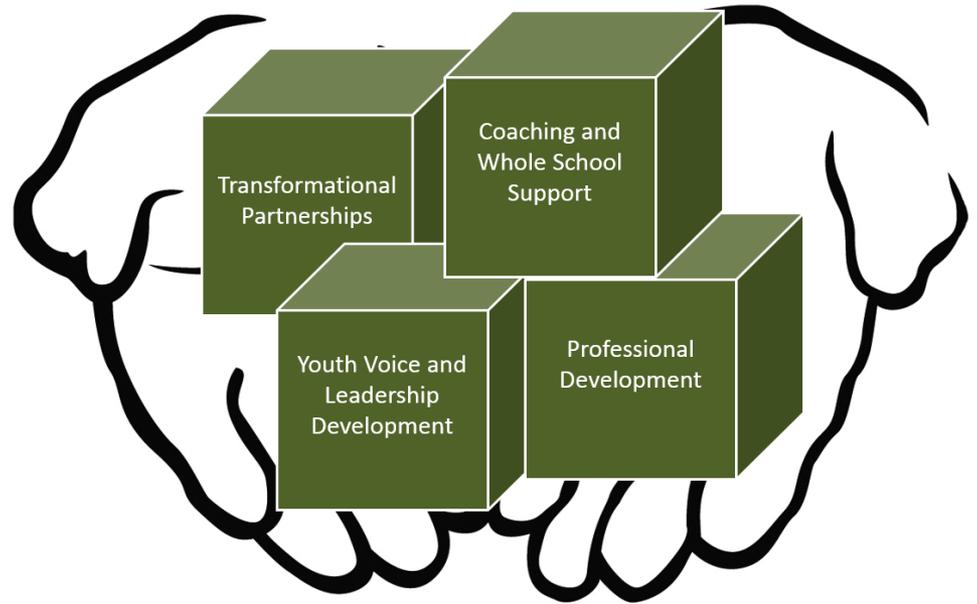
Every hub shapes their strategies to meet the needs of its people and places.



SEMIS' model for teacher and community partner support is comprehensive

“SEMIS is a visionary coalition that unites educators and community partners to grapple with the roots of social and ecological problems and generate practical, place-based applications that have the potential to transform education...after two years of close partnership, I understand why the SEMIS model is so powerful.”

—Justin Schott, executive director, EcoWorks



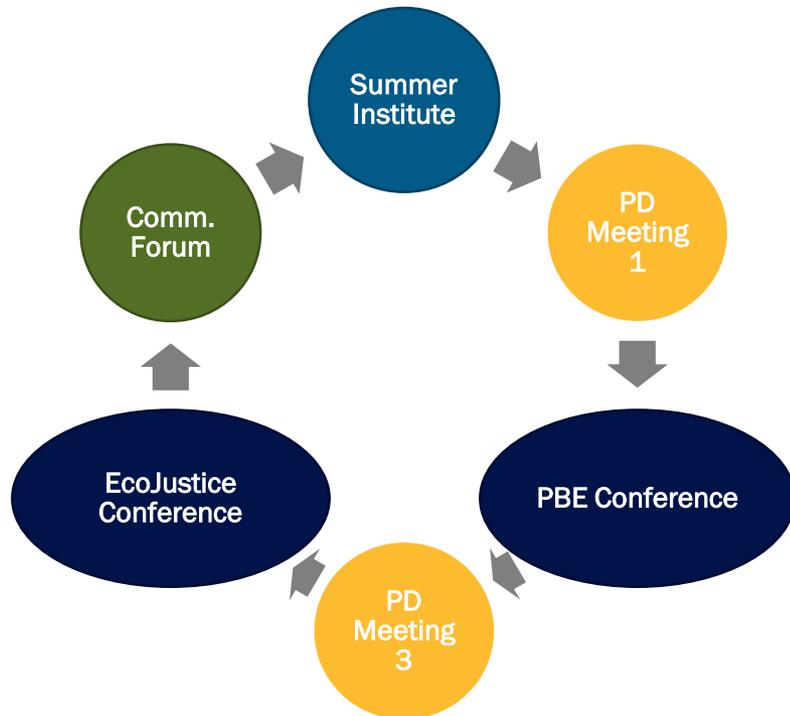
A graphic illustration of SEMIS' forms of support for teachers and community partners.

SEMIS provides support for teachers and partners in four categories: youth voice and leadership development, professional development, coaching and whole school support, and transformational

partnerships. These forms of support work together and lead to the creation of healthier, more ethical, transformative communities in which students can experience rich place-based learning.

SEMIS offers an annual sequence of nine days of professional learning

Community partners and classroom-based teachers learn in a collaborative setting.



The SEMIS annual sequence of professional learning, including a summer institute, two full-day meetings, two conferences, and a community forum.

SEMIS' professional development model provides learning opportunities for teachers, community partners, and administrators in a variety of formats, including coaching and mentoring, coalition building, whole-school professional development, collaborative analysis of teacher-generated curriculum and student work, and codevelopment of place-based curriculum by teachers, school leaders, community partners, and SEMIS staff. This structured sequence was designed with reference to best practices in adult learning theory, place-based and project-based learning, inquiry-based instruction, and academic service learning processes.

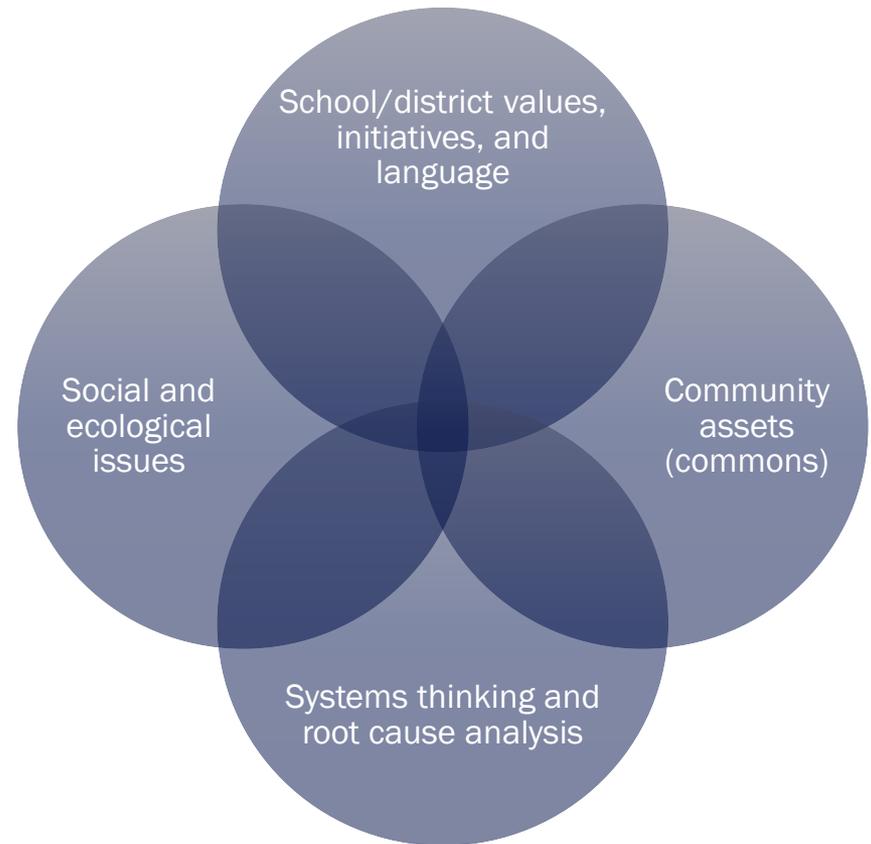
The PD series is cumulative over a one-year period and multifaceted. Each year, SEMIS staff and partners plan the series based on members' needs. They employ research-based practices in designing PD that is supportive of adult transformational learning. Educators come together with different kinds of experiences, strengths, and needs, so SEMIS facilitates conversations with individuals and schools to identify shared resources and strengths.

SEMIS strives for educator growth in scholarship, process, and philosophy

SEMIS defines *scholarship* as knowledge and awareness of academic content and skills. *Process* includes teaching strategies, planning, curriculum mapping, and speaking authentically with students. *Philosophy* focuses on personal beliefs, behaviors, and life choices.

Professional development experiences are designed to focus on intersections between the educational system (including values, initiatives, and ways of thinking and speaking about education); community assets (the commons); systems thinking and root cause analysis; and social and ecological issues (see graphic).

Each year, the professional development series is organized around an essential question and theme that will help teachers and community partners grow in their practice of place-based education.



SEMIS professional learning focuses on the points of intersection between these four areas of focus.

SEMIS uses PBSE to emphasize the civic purposes of education so that students see the value of learning for solving problems of community consequence



In PBSE, the community becomes the classroom. Using a framework that recognizes ecological and social justice as having similar cultural roots, SEMIS engages students in local stewardship efforts using the core practices of:

- 1) Working collaboratively in learning-actions to identify and take action on an environmental issue of public consequence
- 2) Partnering with community organizations in place-based education efforts
- 3) Communicating the results of their work in public forums—to elected officials and municipal administrators; in statewide stewardship conferences with students, teachers and

community-based partners, members of the business community, and/or community residents

In order to support students in local stewardship efforts, SEMIS provides collaboratively constructed mini-grants to school/community organization teams. Applications for funding are reviewed during the first half of the year by the SEMIS leadership team including the director, program director, and assistant director, with the understanding that the process is a conversation and planning tool for moving forward. Once proposals are finalized, the SEMIS leadership team continues to tailor support to the proposal and growth of the students in the project.

SEMIS is an asset-based network that celebrates the strengths of its teachers and community partners

SEMIS cultivates partner organizations that are grounded in the community, have a parallel mission, and have an interest in working with students and teachers to carry out their missions.

When schools and communities collaborate to support teachers and offer rich learning experiences for students, the result is an engaging and meaningful experience for all. To establish and sustain this type of innovative instruction, it takes a strong network of dedicated teachers, community partners, and a coordinating organization like SEMIS.

Community partners participate in the SEMIS nine-day professional development series along side teachers and SEMIS staff facilitate relationships where there is a natural affinity and capacity.

Community partners also seek out SEMIS membership as they hear about work going on in the schools and community, and teachers also bring community partners to SEMIS as they build their own relationships in the community. The SEMIS mini-grant application process also stresses collaboration between teachers and partners and provides financial support for them to work together with students.



Stevie, Anna, and Gibran of D-YES brainstorm with another SEMIS member during the 2015 SEMIS Summer Institute.

SEMIS is dedicated to the development of transformational PBSE partnerships

Transformational partnerships go beyond basic cooperation, and even beyond mutually beneficial relationships. What differentiates them is their long-term nature, the openness of partners to emergent goals, and partners' sense that they belong to something distinct and larger than their home organizations.

Students of collaboration have identified numerous factors associated with success. Some of the factors listed in the [Wilder Collaboration Factors Inventory](#) (n.d.) include:

- Clear and effective communication among members and between the collaboration and external actors
- Skilled leadership
- Sufficient resources, materials, staff, and time
- The collaborative group is seen as a legitimate leader in the community
- Mutual respect and trust
- Shared vision and clear goals

The SEMIS partnership model was developed by the coalition to express its vision for partnerships.

Partnership development is nonlinear and dynamic

Transformational partnership

- Transform into advocate and activist
- Commitment to civic issues beyond project-based relations
- Aims to address bigger social issues, policies, and values
- Unexpected change and complexity is part of the process
- Meets the needs of both organizations and the collective
- Egalitarian relationship with open information sharing
 - Long-term goals that are emergent
 - Collective identity and belonging

Reciprocal partnership

- Teach the importance of collaborative work to community
 - Committed to mutual benefit through partnership
 - Aims to address project-based issues
- Inputs and outcomes are clearly sketched; no room for uncertainty
- Contractual relations, based on task distribution
 - Short-term, but continuous goals
 - Separate organizational identities

Unilateral awareness partnership

- Created to meet an individual organization's needs
- Aims to benefit the organization using the partner organization's asset
 - Short-term project and goals
- Formation of organization's identity

SEMIS had a significant impact on the PBSE efforts fielded at the Detroit Institute of Technology at Cody

SEMIS and DIT have been in partnership since 2010, when students, teachers, and SEMIS collaborated in a community mapping project in the Cody-Rouge neighborhood surrounding the school.

Since that time, place-based experiences at DIT have become more complex and inclusive. Cody Youth Ambassadors have become deeply involved in SEMIS professional development sessions, conferences, and membership events. Students and teachers have found new partners through SEMIS, and have also brought new partners on board.



A group picture at a SEMIS professional development event, with SEMIS staff members, teachers from SEMIS-connected schools, and Cody Youth Ambassadors. Photo: Leisa Thompson

“Inspiring students to take meaningful environmental action in a community requires time, trusting relationships, authentic opportunities for student voice in the community dialogue, and a genuine sense of belonging to your place.”

—Rebecca Nielsen, SEMIS program director

SEMIS staff members worked directly with teachers, partners, and students



SEMIS assistant director Lisa Voelker with a DIT student.

For the *Walk in the Park* project, DIT received direct and sustained support from SEMIS.

Assistant director Lisa Voelker, who specializes in integrating the arts into place-based education explorations, was instrumental in codesigning and supporting *Walk in the Park* activities. She helped Youth Ambassadors prepare for conference presentations and other

public speaking commitments. Rebecca Nielsen, SEMIS program director, provided curriculum coaching for the ninth-grade team to help teachers identify learning objectives and match these to their curricular requirements. Ethan Lowenstein, SEMIS director, engaged preservice teachers in the work at DIT and coordinated the numerous partners supporting this effort.

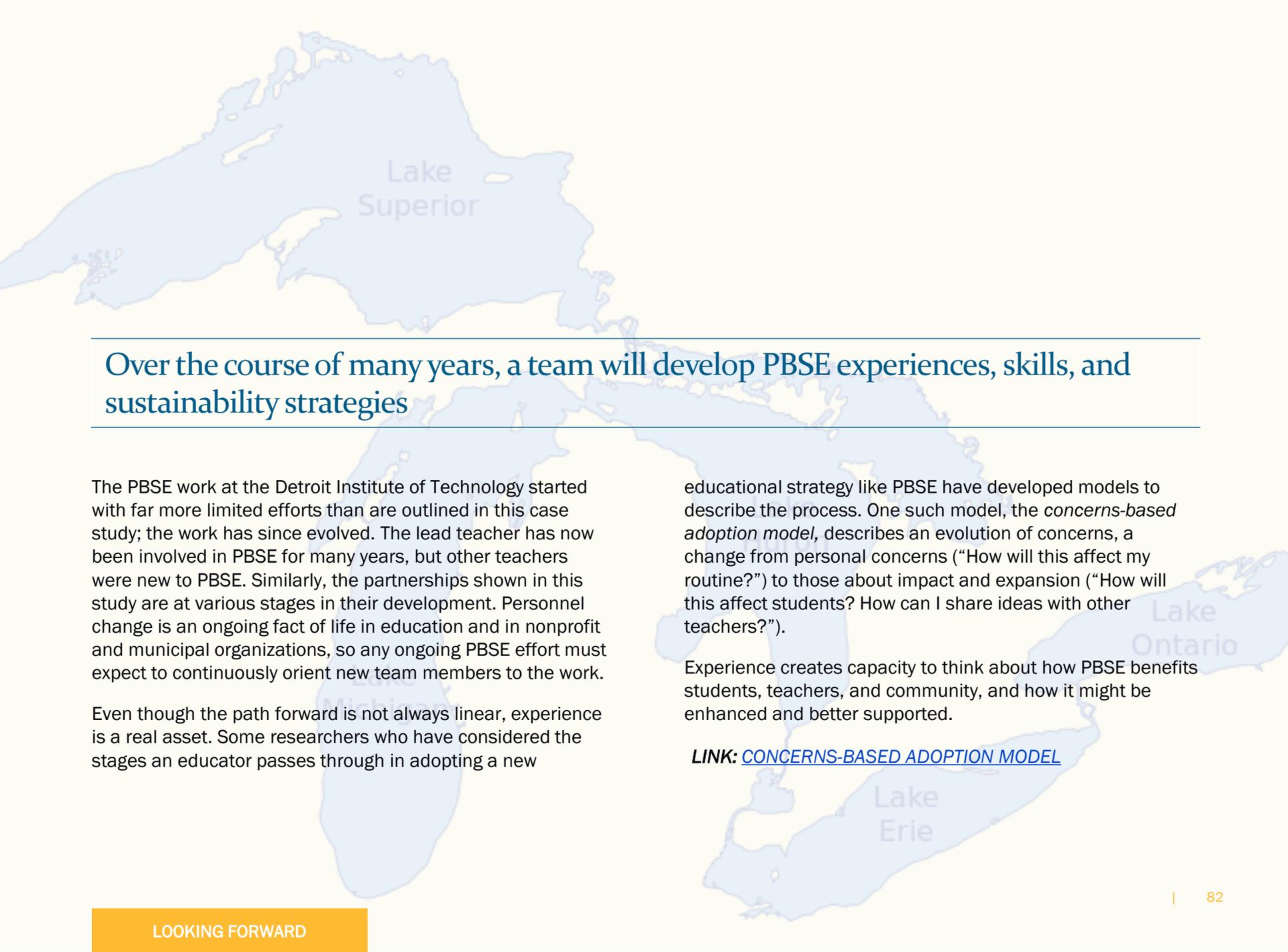
“My membership with the SEMIS Coalition and partnership with EMU has impacted me a lot. It allowed me to use my voice. For example, when we go to EMU to speak, I get better each time and learn something new throughout the process. I enjoy getting to see what other schools are doing to help our community. Getting new ideas from them helps open my mind more. This experience has been great and I plan to take the lessons I learned through SEMIS and EMU and use them throughout my life.”

“My membership in SEMIS and EMU impacted me as a person and a member of my community by becoming a better person and exposing me to different things. As a person, the partnership with EMU has had me thinking about going to college. I have chosen EMU as one of the three colleges I want to go to.”

– Cody Youth Ambassadors



Looking Forward



Over the course of many years, a team will develop PBSE experiences, skills, and sustainability strategies

The PBSE work at the Detroit Institute of Technology started with far more limited efforts than are outlined in this case study; the work has since evolved. The lead teacher has now been involved in PBSE for many years, but other teachers were new to PBSE. Similarly, the partnerships shown in this study are at various stages in their development. Personnel change is an ongoing fact of life in education and in nonprofit and municipal organizations, so any ongoing PBSE effort must expect to continuously orient new team members to the work.

Even though the path forward is not always linear, experience is a real asset. Some researchers who have considered the stages an educator passes through in adopting a new

educational strategy like PBSE have developed models to describe the process. One such model, the *concerns-based adoption model*, describes an evolution of concerns, a change from personal concerns (“How will this affect my routine?”) to those about impact and expansion (“How will this affect students? How can I share ideas with other teachers?”).

Experience creates capacity to think about how PBSE benefits students, teachers, and community, and how it might be enhanced and better supported.

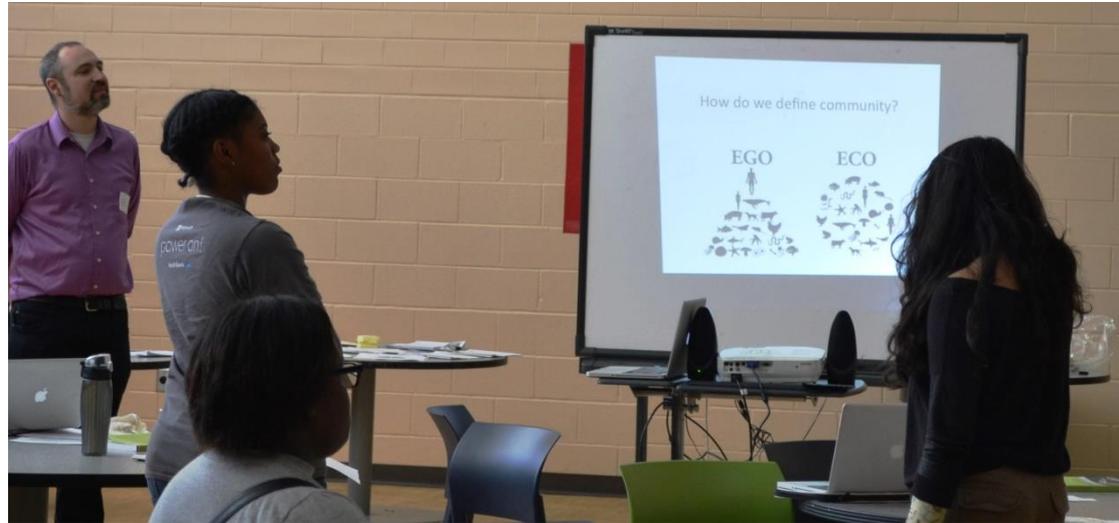
LINK: [CONCERNS-BASED ADOPTION MODEL](#)

Building stewardship interest and capacity is a deliberate process

A chief lesson learned is to build prerequisite skills and knowledge before launching new stewardship projects.

As they began to investigate Rouge Park as a site for stewardship learning, Youth Ambassadors and planning-team members quickly realized that there were multiple preliminary activities and curriculum connections to be made before they could engage students in any robust stewardship efforts in the park. Further, students needed opportunities to build a stewardship ethic and engage with their “place” before they could be expected to care enough about it to make a lasting change.

Specifically, students needed to understand the history of the land, how to conduct an environmental inventory, and how to acquire mapping and water-quality monitoring skills. All of the skills needed to be scaffolded in the classroom and practiced before the actual work in the park could begin. Students needed to spend time in the park getting to know the assets and challenges that existed there, and coordinating multiple trips to the park with an entire grade level and involving multiple disciplines was no easy task. All of this meant that the timeline for major efforts was much longer than initially expected.



“Whenever you are involving students in the co-creation of projects and curriculum and are genuinely interested in their voices, it takes a lot of coordination and time.”

—SEMIS assistant director Lisa Voelker

Students have many more issues in their community that they want to address

Youth Ambassadors would like to conduct stewardship projects in their “adopted” Rouge Park to address water quality and littering issues, and wish to continue to make the park a central community gathering space. Additionally, students have concerns about the litter in their neighborhood and the impact that litter has on their community.

The stewardship work that Youth Ambassadors and ninth graders have done this year takes time and teamwork. In order to ensure consistent and adequate membership within the Youth Ambassadorship program, current Ambassadors would like to continue to mentor the ninth-grade students and expand place-based opportunities offered throughout the school.





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About the Great Lakes Stewardship Initiative

The Great Lakes Stewardship Initiative was launched in 2007 to develop knowledgeable and active stewards of the Great Lakes and their ecosystems.

The GLSI enacts three key strategies (place-based stewardship education, sustained professional development, and school-community partnerships), mainly through the efforts of its nine regional hubs. A small central staff helps coordinate the work and provides technical assistance and support to hubs.

Hubs are funded, in part, by the Great Lakes Fishery Trust, which in 2007 pledged to provide more than \$10 million through 2017 to support the GLSI's work. The GLSI and its hubs solicit and receive additional support from foundations, federal and state agencies, local and regional partners, and individual donors.

From 2007 through the 2014–15 school year, the GLSI has worked with more than 1,500 teachers in more than 280 schools across Michigan, engaged hundreds of community partners, and supported rigorous place-based stewardship experiences for more than 80,000 students—and the work continues.

LINK: [GREAT LAKES STEWARDSHIP INITIATIVE](#)

LINK: [GREAT LAKES FISHERY TRUST](#)



The GLSI's 2014 grant from the U. S. Environmental Protection Agency supported this case study and other knowledge products

In 2014, the U.S. EPA awarded the GLSI a \$150,000 grant through its Environmental Education Grant Program. Through this grant, the GLSI funded a collection of exemplary place-based stewardship projects across Michigan and documented these projects through case studies.

The grant also supported the development of several knowledge products to support the practice and spread of place-based stewardship education in K–12 schools and communities. The first knowledge product is a set of guiding principles that describes the GLSI's vision for place-based stewardship education in K–12 schools and communities. The principles can serve as a compass for practitioners, and also highlight the ways that place-based education connects to important goals and initiatives in education.

The second knowledge product is a rubric that supports the guiding principles. The rubric describes in detail the actions and practices that characterize various developmental stages in place-based stewardship education. It can be used for several important purposes, including a self-assessment of practice.

A third knowledge product is a white paper that focuses on expectations for and the educational, community, and environmental benefits of place-based stewardship education across urban, rural, and suburban contexts.

This document was developed under Assistant Agreement No. 00E01327-0 awarded by the U.S. Environmental Protection Agency. It has not been formally reviewed by EPA. The views expressed are solely those of the Great Lakes Fishery Trust and EPA does not endorse any products or commercial services mentioned.

[LINK: OTHER EPA KNOWLEDGE PRODUCTS](#)

[LINK: FULL SET OF CASE STUDIES](#)

A special thanks from SEMIS

To Leisa Thompson—for documenting so many parts of the DIT work and for providing such an artistic and professional eye in this process.

To the DIT students—for allowing SEMIS to learn with you and provide support in developing your voices for the future.



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With assistance from participating educators, civic leaders, and community partners, the GLSI:

- Helps young people become effective and motivated environmental stewards
- Encourages schools and community organizations to work together for mutual benefit
- Creates a sustained effort across Michigan to expand classrooms, strengthen communities, and improve the environment