



CONSORTIUM
OF FLORIDA EDUCATION
FOUNDATIONS

**FPL EmPOWERing
STEM Educators:
Project Review & Lessons Learned**

May 30, 2024





EmPOWERing STEM Educators



Fostering Teacher Leadership

EmPOWERing STEM Educators





EmPOWERing STEM Educators



Sarah Marmion
Senior Manager of Community Engagement
and Educational Programs.

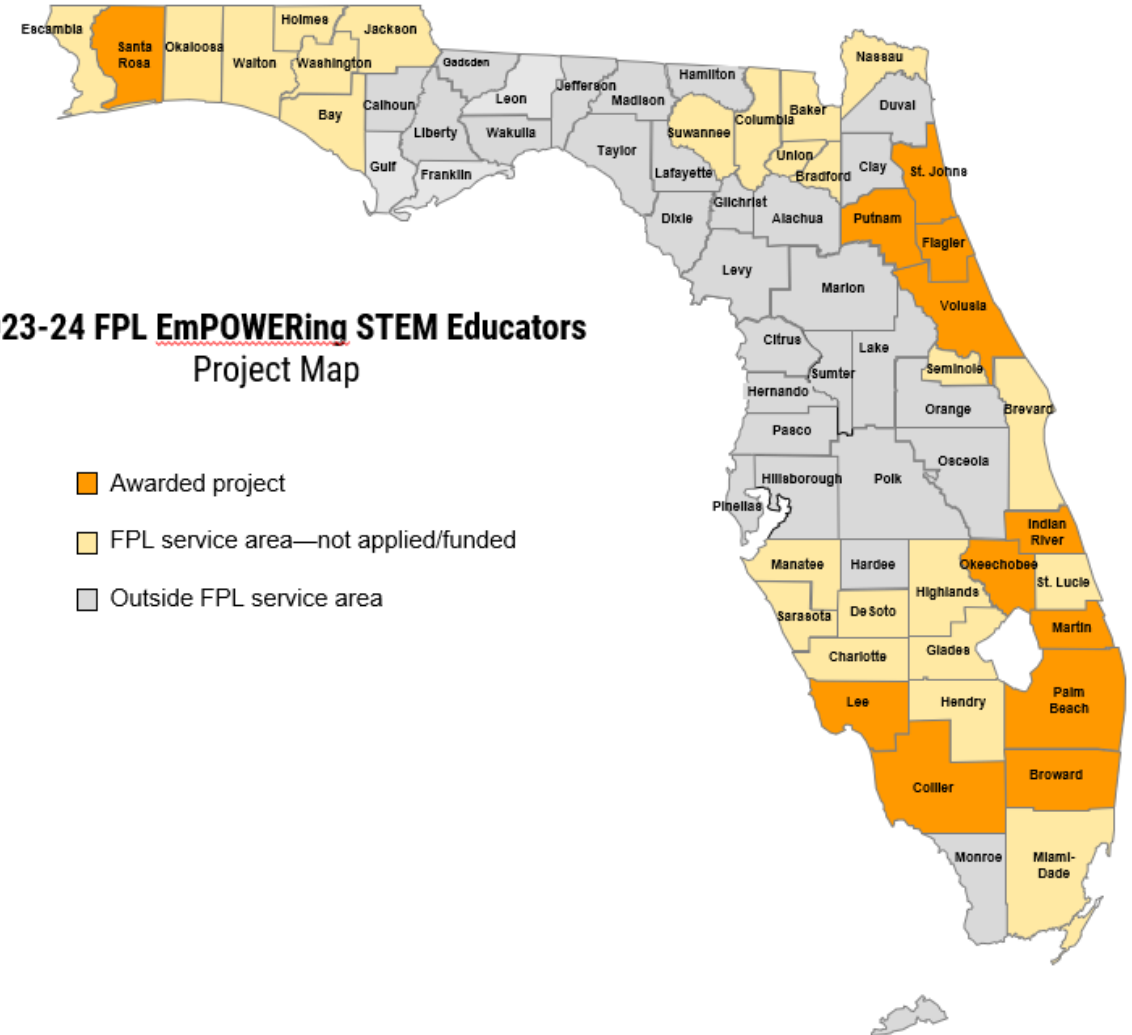




EmPOWERing STEM Educators

Program Purpose:

- Increase teacher knowledge of effective math and science instructional practices
- Alignment with Florida Standards
- Peer-to-peer teacher learning
- Best-practice sharing





EmPOWERing STEM Educators

EmPOWERing STEM Through SECME

*Annmargareth Marousky and Sheryl Arriola
District Computer Science Instructional Specialists*



- Challenges:
 - Teachers are feeling overwhelmed. They attended webinars and trainings and even started event activities in the classroom but did not compete.
 - Students not committing to attending events or failing to show up.
- Lessons Learned:
 - Having lead teachers be the main contributors/instructors during webinars really helped others gain guidance and resources.
 - Teachers need better tie-in to curriculum standards to gain admin support and feel appreciated.
 - Need a better incentive to get students to commit to attending the event.





EmPOWERing STEM Educators

EmPOWERing STEM Through SECME

*Annmargareth Marousky and Sheryl Arriola
District Computer Science Instructional Specialists*



- Impact
 - Allowing teachers to include students during PD really improved the quality of the projects presented
 - Having a web site to showcase projects really increased interest from other schools for next year.

“I would recommend the observation and reflection framework to other educational professionals because it gave me the opportunity to try new instructional strategies.”





EmPOWERing STEM Educators

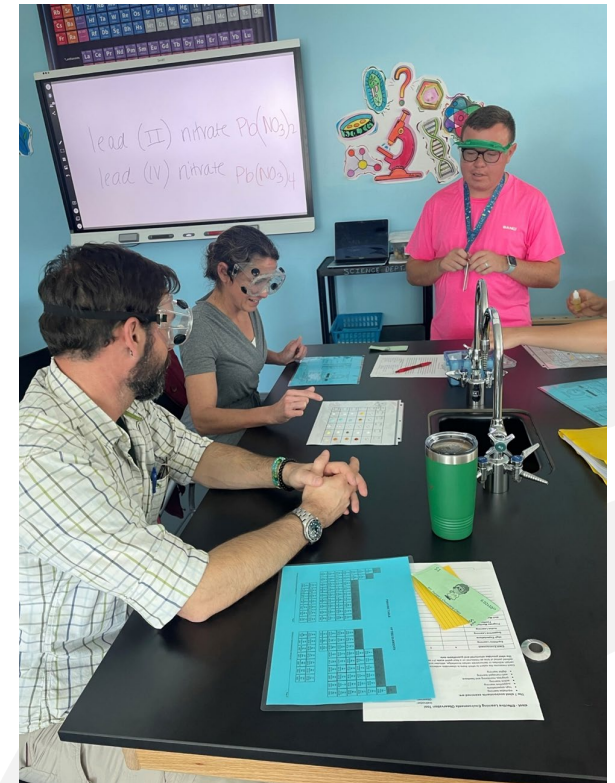
EmPOWERing the Next Generation Through Success in STEM

Dani Henderson, CFL, Director of Educator Programs, Champions for Learning



- Introduction of an Integrated Science curriculum where teachers worked together to plan, implement and ensure successful student progression into future Biology curriculum
- Successes
 - Use of observation worksheets and same day debrief pending each observation.
 - Lead Teachers participated in cooperative planning for implementation of new Biology curriculum.
 - Feeder middle school instructors were able to observe classrooms of IGCSE Chemistry and AICE Marine Science instructors

“As a new teacher with some experience, I was able to be introduced to both new teaching methods and new classroom management methods. These are new methods that I have not seen inside a classroom. Since having my own class, I do not have as much time to spectate other teachers or classes, so this gave me the opportunity to do so.”





EmPOWERing STEM Educators

EmPOWERing the Next Generation Through Success in STEM

Dani Henderson, CFL, Director of Educator Programs, Champions for Learning



- Challenges
 - Differing bell schedules between middle and high school – longer class times at the high school allow for lengthier activities/lessons vs. middle school
 - Change in CFL program leadership
 - Substitute teacher availability for observation days
- Impact
 - Two teachers were new to teaching entirely, but they felt supported and encouraged throughout the school year, gaining mentors and new lessons to implement in their own classrooms.

“The opportunity to watch other professional educators teach and use different teaching strategies was an incredibly valuable experience.”





EmPOWERing STEM Educators

Flagler's Purposeful Learning

Heidi Alves, District Curriculum Specialist for Science



- 4th-8th grade teachers focused on state science standards
- Program:
 - Teacher lessons held on Saturdays with opportunities for teachers to observe teacher leaders in the classroom after
- Successes
 - Encouraged teacher leaders to facilitate PD for peer-to-peer learning
 - Provided supplies for teachers to implement the lessons in classrooms immediately
 - Implementation of standards-aligned lessons





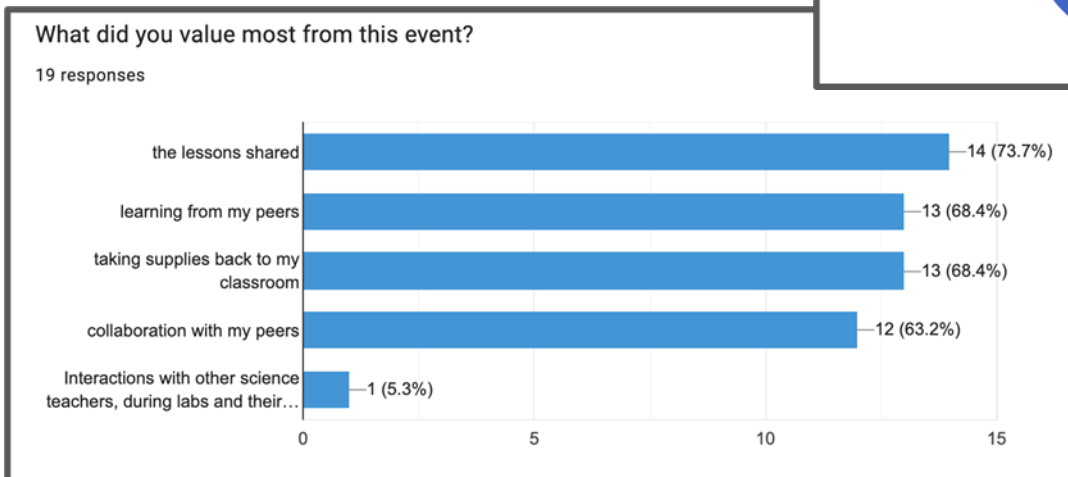
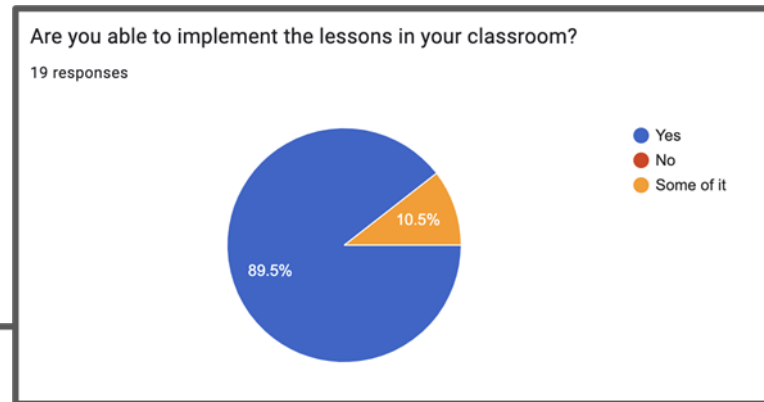
EmPOWERing STEM Educators

Flagler's Purposeful Learning

Heidi Alves, District Curriculum Specialist for Science



Impact:



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EmPOWERing STEM Educators

90x 9

Mary Hillary, Math Specialist, School District of Indian River County
Janet Knupp, Executive Director, Indian River Education Fund



- Purpose: Building capacity among Algebra I teachers to ensure 90% of students enrolled earn a passing score on the EOC by end of 9th grade
- Strategies:
 - Utilized Building Thinking Classrooms in Mathematics by Peter Liljedahl
 - Integrated ELL scaffolding and notetaking strategies in daily lessons
 - Lesson Plan Cycle: Study & Plan; Teach, Observe & Debrief; Revise; (Re)teach & Report





EmPOWERing STEM Educators

90x 9

*Mary Hillary, Math Specialist, School District of Indian River County
Janet Knupp, Executive Director, Indian River Education Fund*



■ **Successes:**

- Teacher indicated being part of this PLC encouraged them to grow as professionals
- Teachers expressed appreciation for the opportunity to collaborate with peers
- Teachers noticed the benefit in student engagement and academic discourse through vertical learning
- Students developed confidence in math skills
- Nearly doubled the number of students who passed EOC exam

"I have become a better teacher to my students and a better professional to my peers."





EmPOWERing STEM Educators

Science is All Around Us: EmPOWERing Science Educators

Jaelyn Quintero, Elementary Science Content Specialist



- Collaboration among new educators and those new to teaching science
- Focus on elementary school teachers who may not be proficient in STEM areas
- Focused on areas of struggle



“Great experience! I enjoyed collaborating with so many amazing educators. Thank you!”





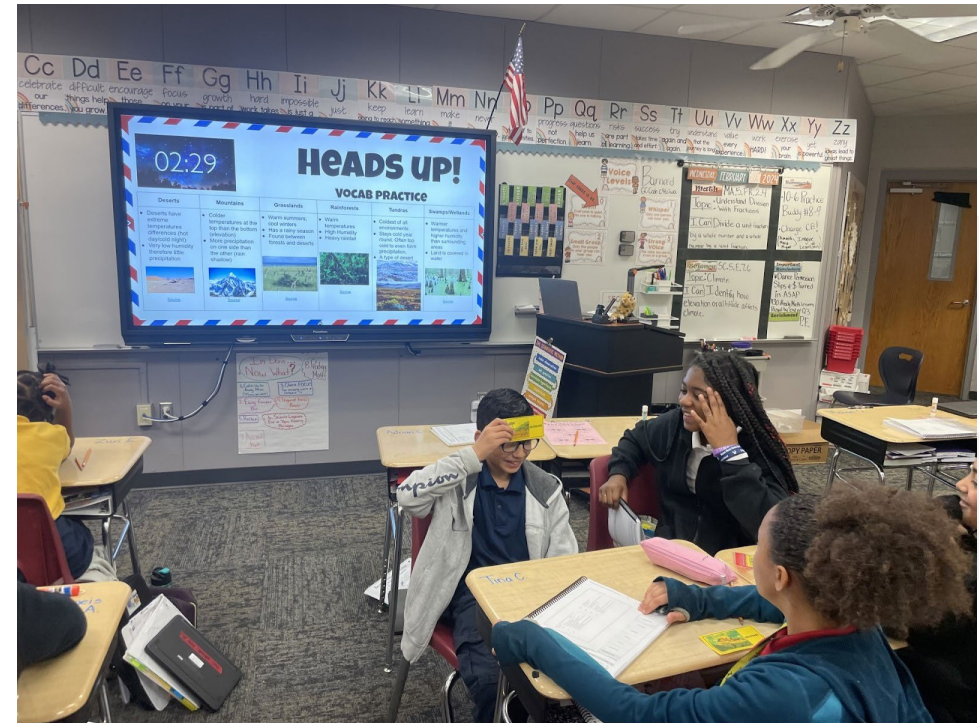
EmPOWERing STEM Educators

Science is All Around Us: EmPOWERing Science Educators

Jaelyn Quintero, Elementary Science Content Specialist



- Successes:
 - Implementation of learned collaborative strategies
 - Teachers reported an increase in student engagement and participation
 - Building capacity as teachers gained knowledge of the science content
 - Created a safe and innovative environment for teachers to support and learn from one another
- Challenges:
 - Aligning the face-to-face workshop content with the content being taught in the classroom





EmPOWERing STEM Educators

Peers in Public Practice: Bringing Science to Life

Jennifer Borges, District Science Coordinator

Lisa Rhodes, Executive Director, Education Foundation of Martin County



- 22 teachers participated in two workshop days and one classroom instruction observation day with feedback after delivering one of the four lessons and new strategies they learned during the interactive workshop days presented by lead teachers -- 4 days of collaborative learning with 25 teachers from 10 schools
- Challenges:
 - Leadership changes led to priority shifts and ultimately a change in our original program plan
 - Scheduling during the school day and on Saturdays proved challenging

"This format allows for growth of my professional practice and gets teachers away from the 'teaching in a bubble' feeling or 'on an island' feeling. Sharing a lesson was good, observing other lessons was great."





EmPOWERing STEM Educators

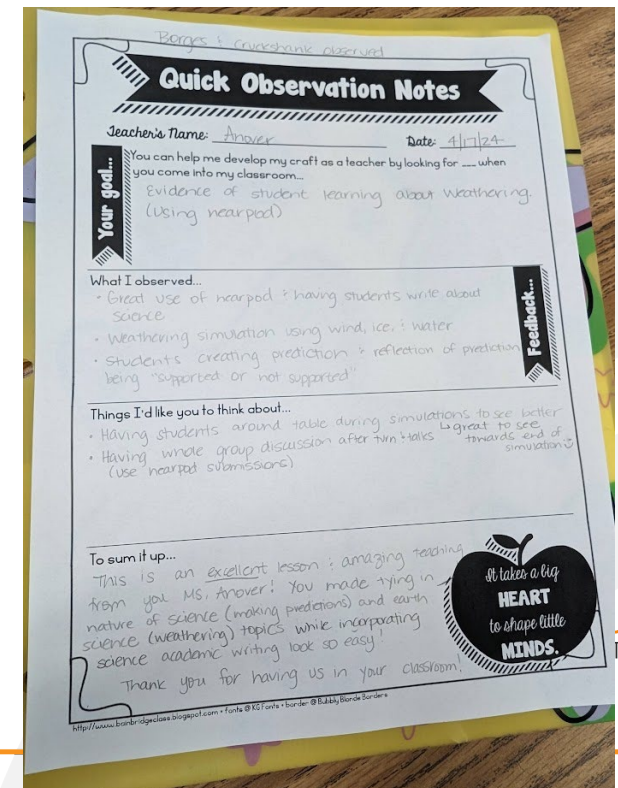
Peers in Public Practice: Bringing Science to Life

Jennifer Borges, District Science Coordinator

Lisa Rhodes, Executive Director, Education Foundation of Martin County

- Lessons Learned:
 - A bend in the road is not the end of the road...
 - Scheduling workshop sessions immediately after school hours brought an increase in teacher availability
 - This year's eventual success laid the scheduling groundwork for our next year's proposal--providing two workshop sessions in the fall and again in the spring with a classroom observation day after each will allow us to double our reach and impact.
- Successes:
 - Teachers enjoyed having time to learn from each other and coming away with materials needed to implement learned strategies and classroom lessons
 - Teacher leads were empowered when identified as experts in their field and provided the platform to share their knowledge and skill sets with their peers
 - Both leads and observers appreciated having the time to watch observing teachers deliver classroom instruction with immediate debriefing sessions and peer encouragement

THE
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EmPOWERing STEM Educators

STEM Together: Enhancing Kindergarten Through Peer Learning

Heather Johnson, Assistant Principal, North Elementary

Alaina Barron, Executive Director, Education Foundation of Okeechobee

- Use of STEM kits to engage teachers and students
- Challenges:
 - Making lessons fit in a 30-40 min time slot
- Lessons Learned:
 - Make sure everything was well prepared in advance
 - Build in time for student inquiry





EmPOWERing STEM Educators

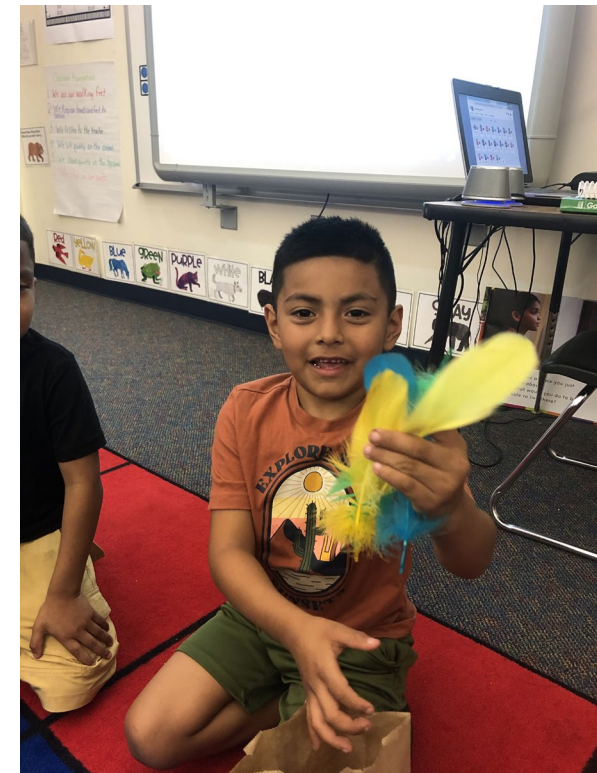
STEM Together: Enhancing Kindergarten Through Peer Learning

Heather Johnson, Assistant Principal, North Elementary

Alaina Barron, Executive Director, Education Foundation of Okeechobee

- Teacher Successes:
 - Decreased amount of lesson preparation
 - Brought standards to life by making material engaging
 - Deeper understanding of the science
 - Explanation for New and Inexperienced teachers is easy to follow
- Student Successes:
 - Increased student engagement
 - Improved critical thinking skills
 - Fostered curiosity and inquiry skills as well as creativity in students
 - Helped with collaboration and communication skills
 - Increased hands-on learning

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of Okeechobee 



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EmPOWERing STEM Educators

EmPOWERing STEM Educators in PBC

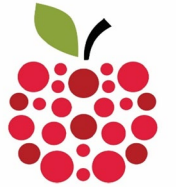
Jessica Zunker, K-12 STEM Program Planner, School District of Palm Beach County

Robin O'Brien, K-12 Manager Math, Science, & STEM, School District of Palm Beach County

Jennifer Ethridge, Director of Programs and Grants, Education Foundation of Palm Beach County

Jennifer Dery, Freedom Shores Elementary, STEM Lab teacher

Deanna Jones, Highland Elementary, Science Coach



EDUCATION
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OF PALM BEACH COUNTY

Challenges:

- **Time Constraints:** Finding time for teachers to observe one another can be difficult due to busy schedules and existing teaching responsibilities.
- **Logistical Issues:** Coordinating observation schedules and ensuring minimal disruption to the learning process can be challenging.
- **Curriculum Rigor:** Observations might reveal gaps in curriculum rigor or coherence, necessitating significant adjustments that can be daunting to implement.
- **Resource Availability:** Differences in resource availability between classrooms can impact the feasibility of integrating observed practices into one's own curriculum.

Lessons Learned:

- **Curriculum Review:** Regular curriculum reviews and updates, informed by observations, can enhance rigor and coherence, ensuring that all students receive a high-quality education.
- **Resource Sharing:** Promoting the sharing of resources and materials among teachers can facilitate the adoption of effective practices observed in other classrooms, enhancing overall curriculum delivery.





EmPOWERing STEM Educators

EmPOWERing STEM Educators in PBC

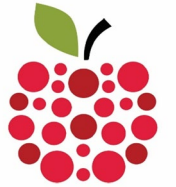
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OF PALM BEACH COUNTY

Project Successes:

- **Enhanced Teaching Practices:** Observing other teachers helped introduce STEM teachers to new instructional strategies and techniques, which they can adapt and implement in their own classrooms to improve student engagement and learning outcomes.
- **Collaborative Learning:** The initiative fostered a culture of collaboration and continuous professional development among teachers, enabling them to share ideas, resources, and best practices.
- **Insight into Student Perspectives:** Observing different classrooms provided educators with a better understanding of diverse student needs and behaviors, helping them to tailor their instruction more effectively.
- **Cross-Disciplinary Integration:** By observing teachers from other subjects and content areas, STEM educators identified opportunities to integrate cross-disciplinary approaches, enriching their curriculum and making connections between STEM and other fields more explicit for students.





EmPOWERing STEM Educators

Nurturing STEM Excellence

Lorena Dominey, STEM Resource Coach, Putnam County School District

Cathleen Holzknacht, Executive Director, The Education Foundation of Putnam County



- Goal: Enhance STEM educators' proficiency and instructional impact in mathematics and science through collaborative peer learning experiences, which entails visiting classrooms to observe STEM lessons integrating science and math standards.
- Successes:
 - Educators gained a deeper understanding of how to align their STEM lessons with science and math standards, ensuring that the content they teach meets curriculum requirements and promotes student achievement.
 - Educators recognized the value of collaboration and peer support in professional growth.





EmPOWERing STEM Educators

Nurturing STEM Excellence

Lorena Dominey, STEM Resource Coach, Putnam County School District

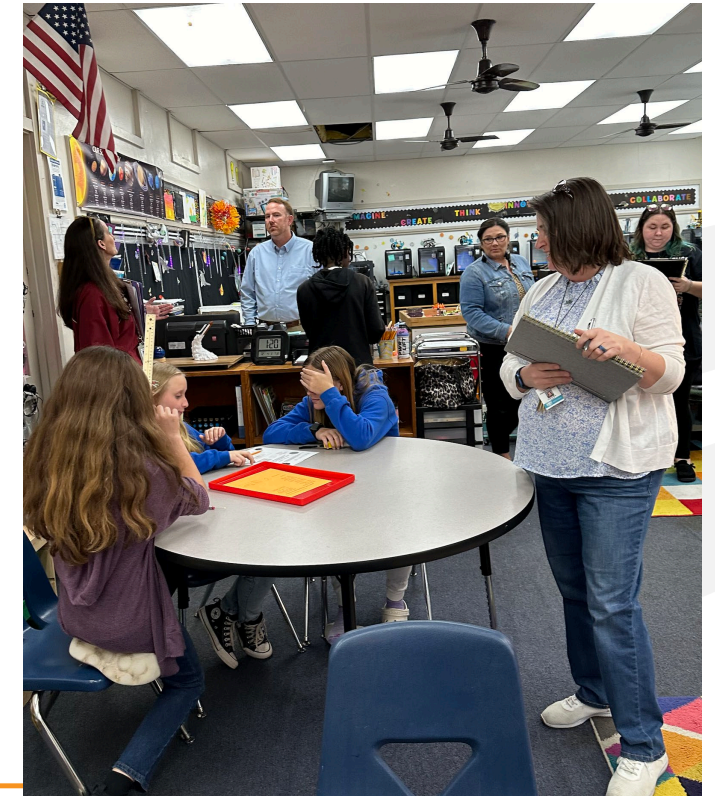
Cathleen Holzknacht, Executive Director, The Education Foundation of Putnam County



“We were able to watch a peer’s lesson that was relevant to our roles as STEM teachers. We also collaborated with other STEM teachers and STEM Resource Teacher to discuss things that are working and things that need to be addressed.”

“I always love observing other educators. This not only gives me ideas to implement in my classroom, but also helps me reflect on what I can change and do better with my own teaching.

“I was able to observe new STEM/Science lessons that are fun and engaging. These were new lessons that I had not known prior to today’s meeting.





EmPOWERing STEM Educators

Sharing Best Practices in STEM Through Peer-to-Observations

*Michael Knowlton, District Coordinator of STEAM
Danielle Clark, Executive Director, Santa Rosa Education Foundation*

- Challenges
 - Scheduling and teacher changes
- Successes:
 - Teachers able to leave the observation with actionable strategies and the tech tools to instantly implement in their own classroom

"I appreciated the opportunity to observe a variety of activities being used at different levels. This makes it easier to implement within the classroom and differentiate for the levels of my students."





EmPOWERing STEM Educators

Sharing Best Practices in STEM Through Peer-to-Observations

Michael Knowlton, District Coordinator of STEAM

Danielle Clark, Executive Director, Santa Rosa Education Foundation

- Lessons Learned:
 - Watching peer teachers use the Osmos with students allowed participants to learn new strategies and gain resources to increase student engagement and math gains.

“This format allows for real world examples of how it would actually be used by students in an instructional environment. It is a great way to brainstorm with colleagues & peers in a contemporaneous, collaborative session.”





EmPOWERing STEM Educators

EmPOWERing STEM Educators in St. Johns County

Marna Fox, District Secondary Science Program Specialist



- Purpose: Increase teacher knowledge and broaden their STEM instructional practices to engage, motivate, and educate students in courses covered by the General Science Certification Exam: Biology, Physical Science Honors, Environmental Science, Earth Space, and middle school science courses.
- Eight teachers passed the Middle School General Science Certification Program





EmPOWERing STEM Educators

EmPOWERing STEM Educators in St. Johns County

Marna Fox, District Secondary Science Program Specialist



- Challenges: Coordinating teachers' schedules and ensuring substitute coverage in classrooms when attending in-person sessions.

"It helped me feel better about teaching Physical Science!! I felt at a loss at the beginning, and now that I'm at the end I'm so excited to teach it next year!"





EmPOWERing STEM Educators

Student Engagement With STEM

Amy Monahan, Volusia County Schools STEM Specialist

*Amanda Whited, Math & Science Coach at Pine Ridge High School
(Deltona)*



- Successes:
 - Teachers emPOWERED to use STEM to engage students in math
 - Incorporated math concepts
 - Collaborated to create lessons
 - Modeled lessons for each other
 - Saw students who struggle with math be successful when robots employed in the lessons.
 - Veteran teachers were inspired.





EmPOWERing STEM Educators

Student Engagement With STEM

Amy Monahan, Volusia County Schools STEM Specialist

Amanda Whited, Math & Science Coach at Pine Ridge High School (Deltona)



■ Challenges:

- Timeframes for completing the mission was difficult
- Teachers want to continue the program and model in additional classrooms.

“I saw students that usually did nothing, become the helpers. I saw that they understood the concepts but not in the traditional way.”





EmPOWERing STEM Educators

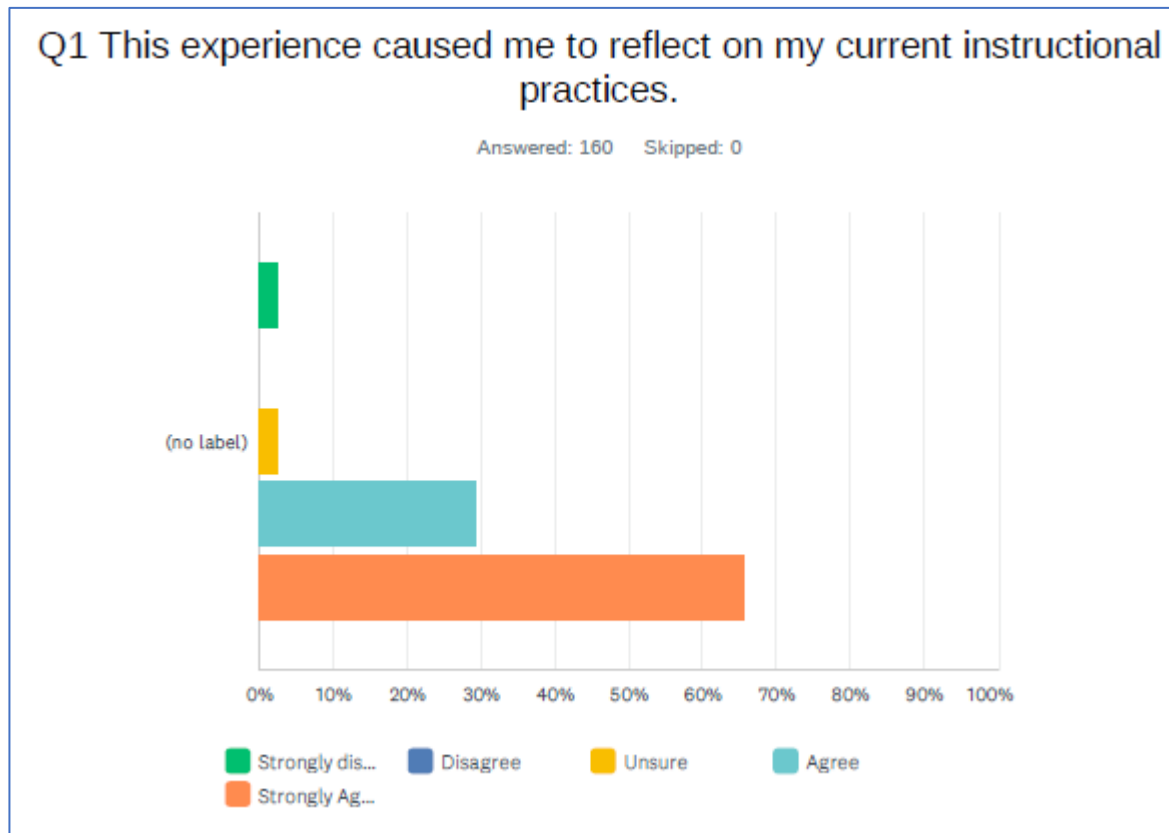
QUESTIONS?





EmPOWERing STEM Educators

Teacher Follow-up Survey Results

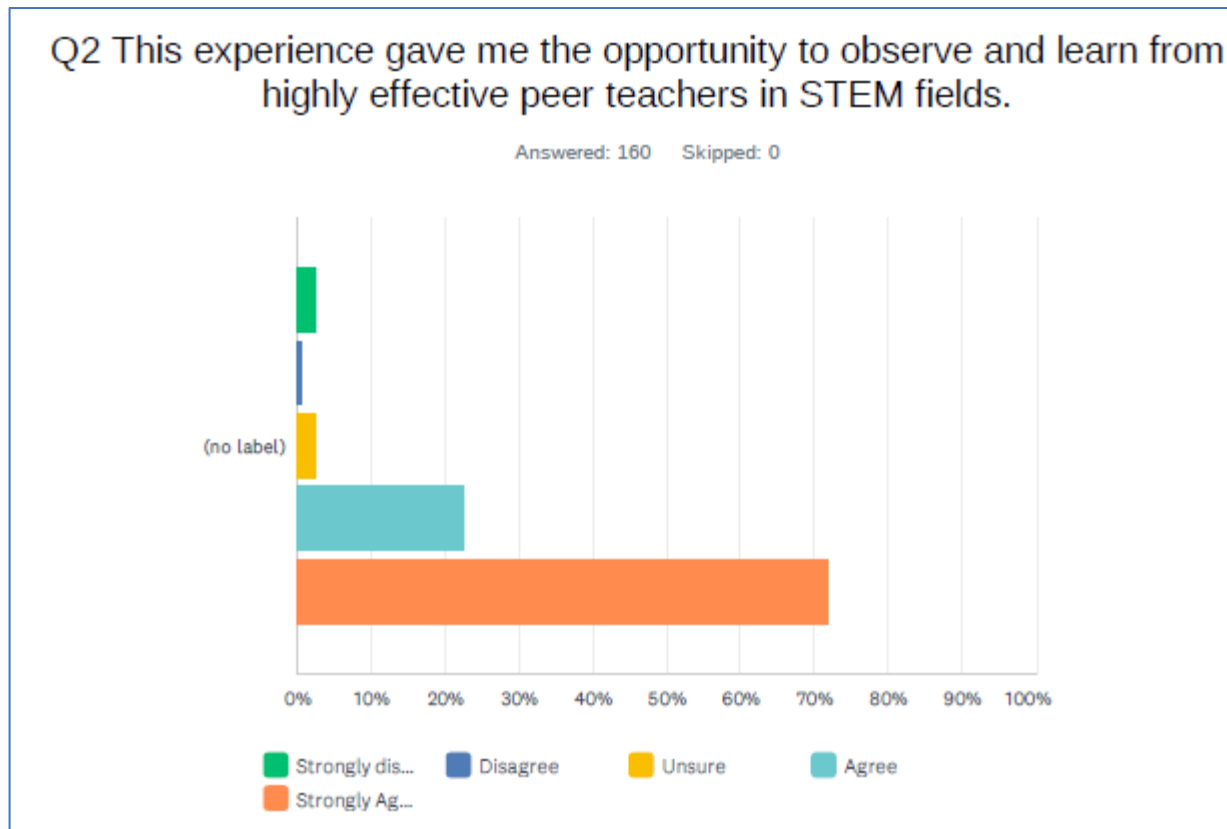


95% Agreed or Strongly Agreed



EmPOWERing STEM Educators

Teacher Follow-up Survey Results

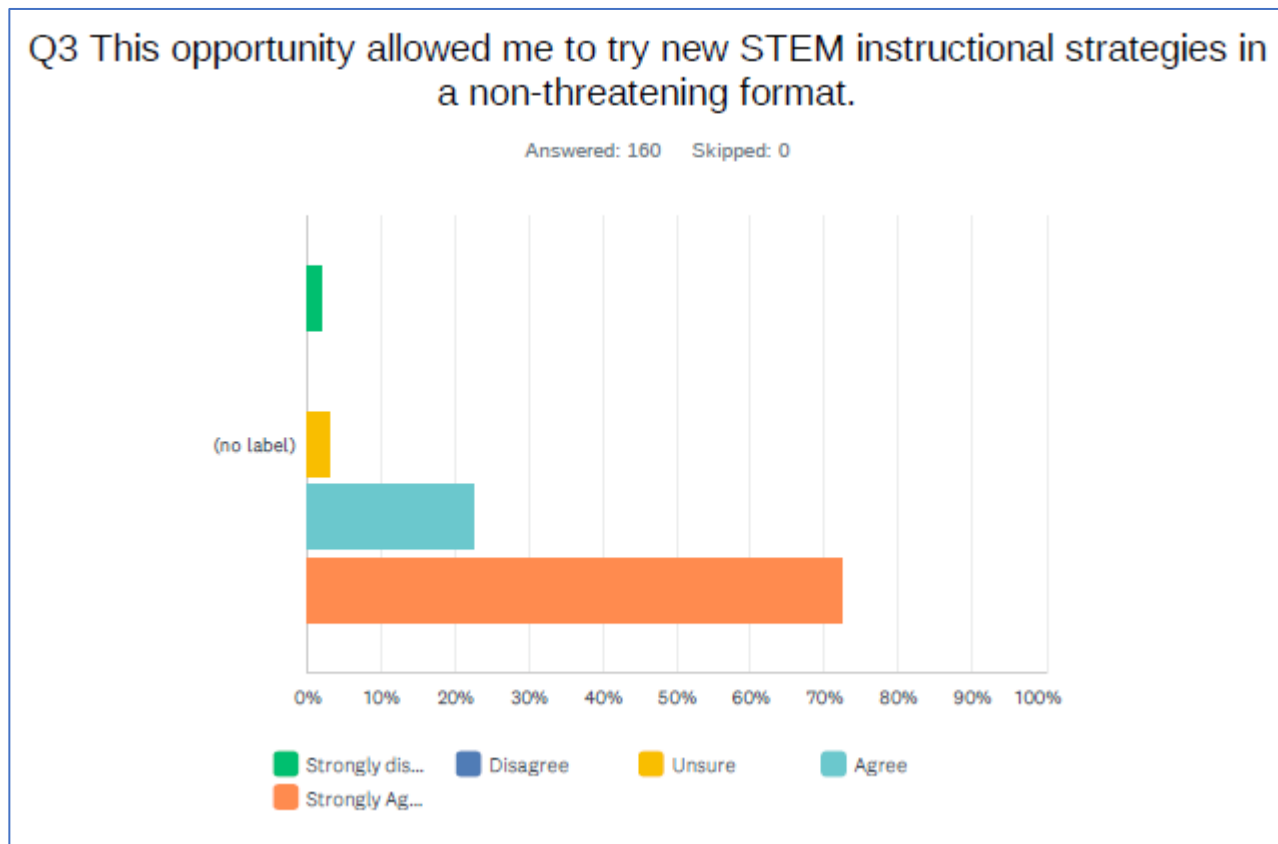


94% Agreed or Strongly Agreed



EmPOWERing STEM Educators

Teacher Follow-up Survey Results

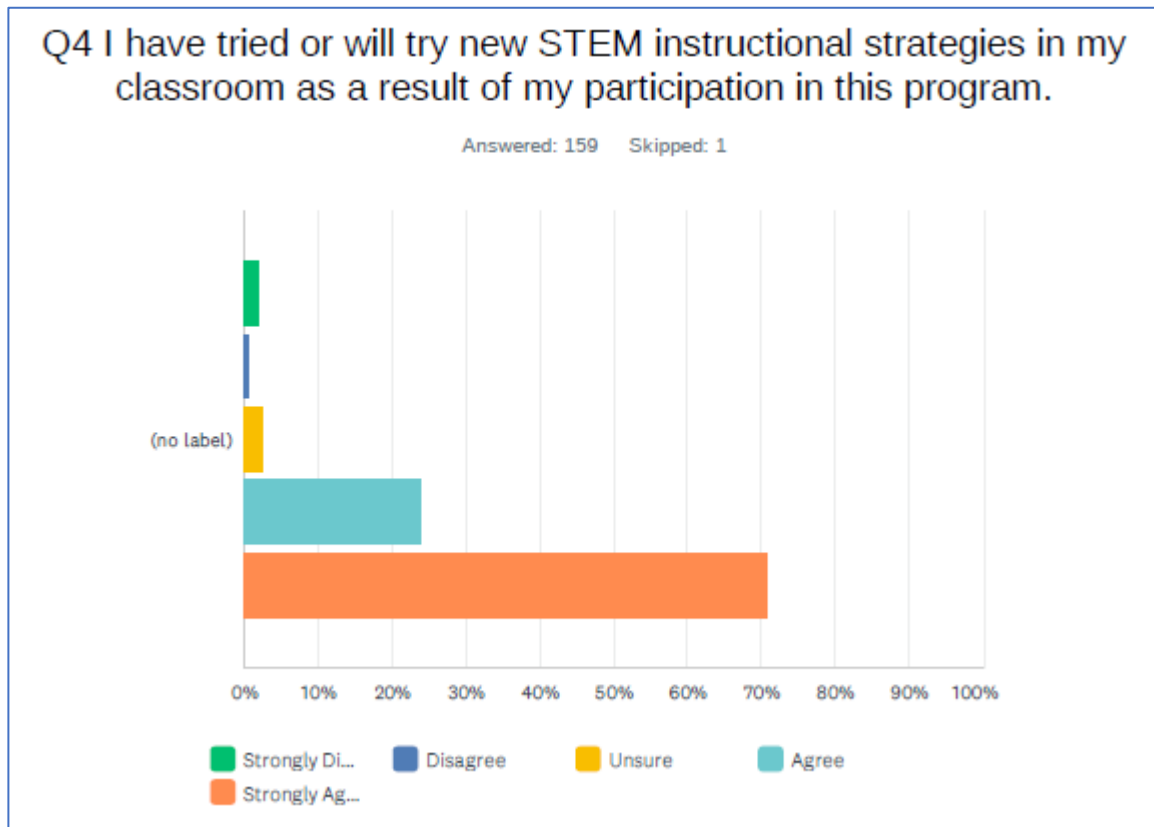


95% Agreed or Strongly Agreed



EmPOWERing STEM Educators

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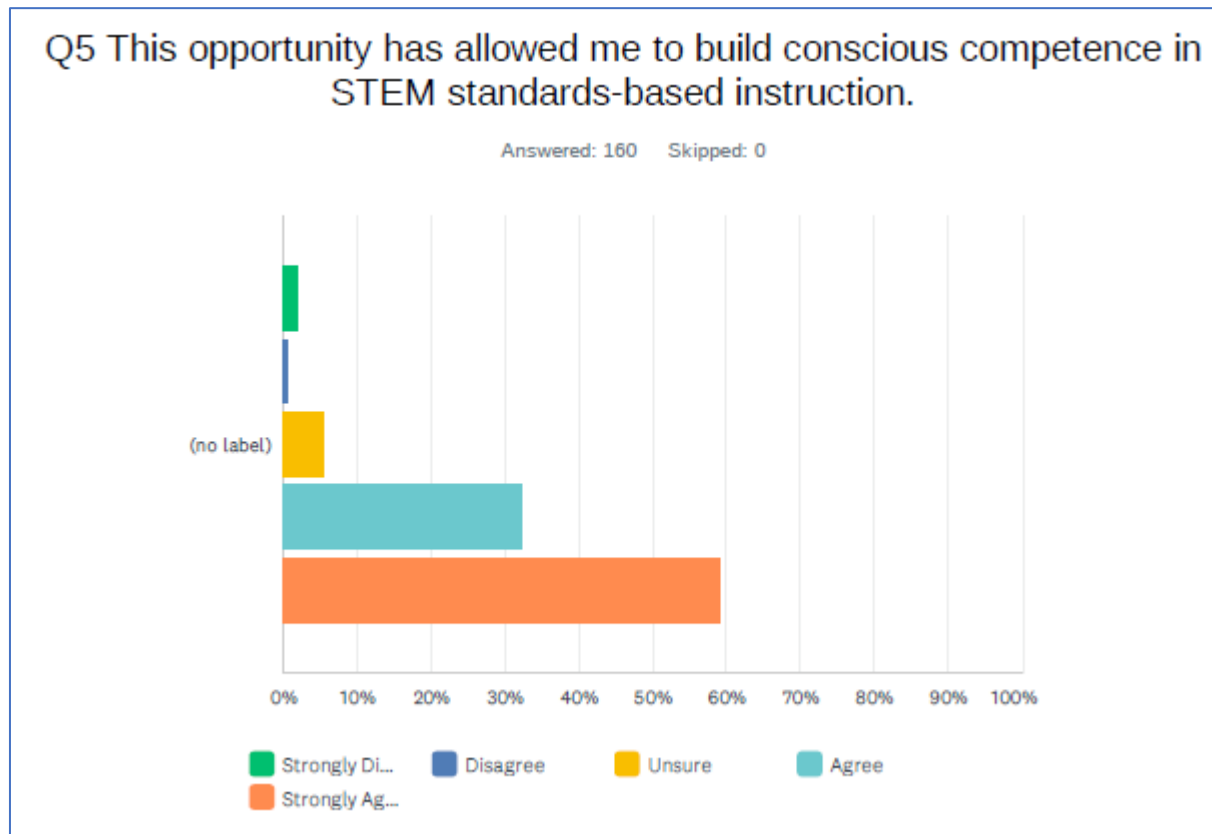


95% Agreed or Strongly Agreed



EmPOWERing STEM Educators

Teacher Follow-up Survey Results

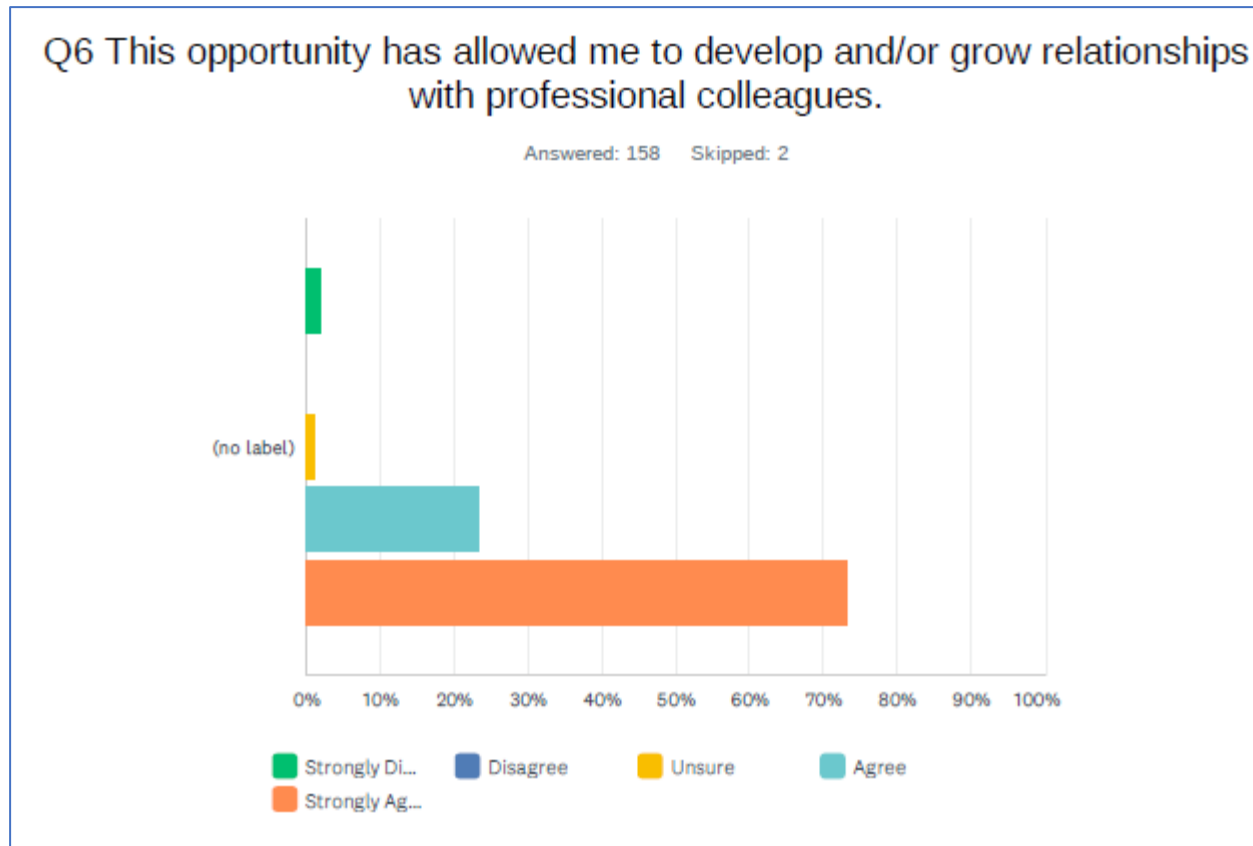


92% Agreed or Strongly Agreed



EmPOWERing STEM Educators

Teacher Follow-up Survey Results

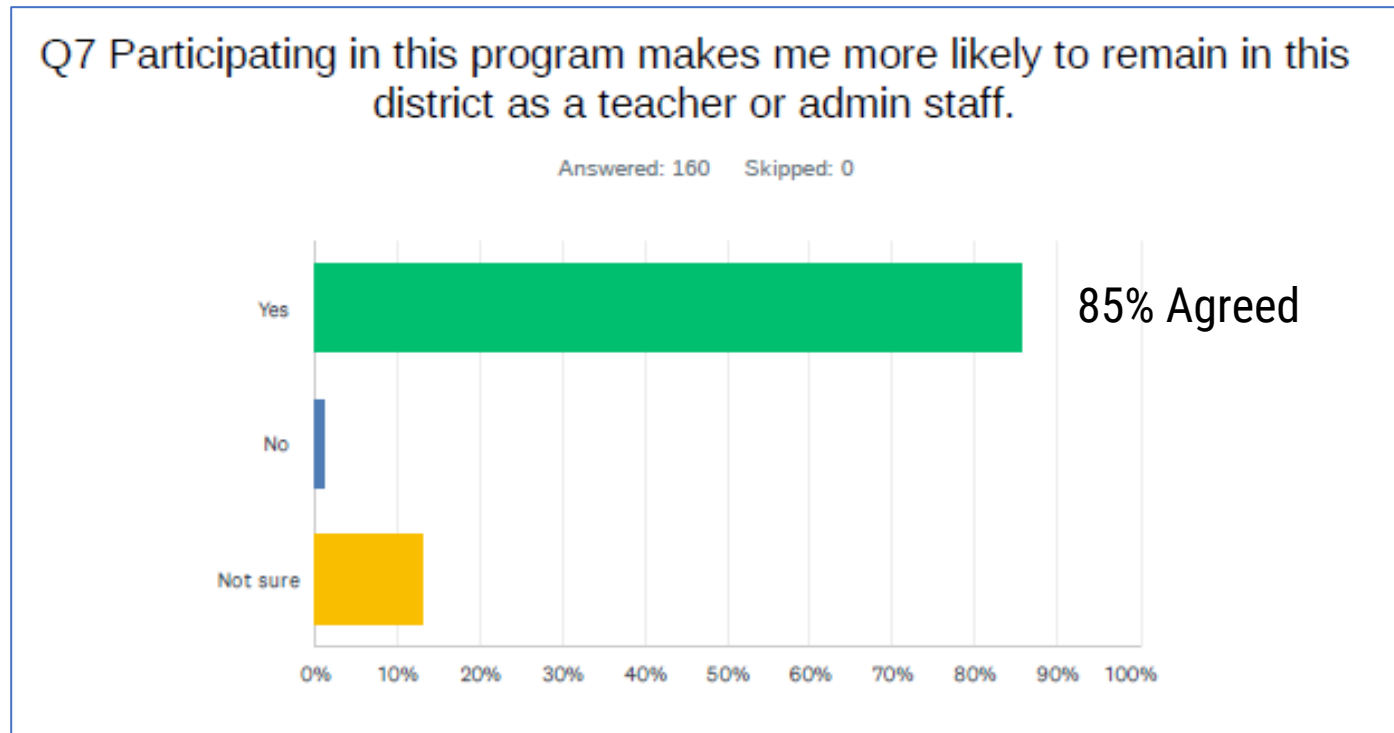


97% Agreed or Strongly Agreed



EmPOWERing STEM Educators

Teacher Follow-up Survey Results



Jayne Moraski
Director of Grants and Programs
jaynemoraski@cfef.net