



# STEM Starts at Home

## Impact Report

A Family STEM Engagement Initiative

Made Possible Through the Generous Support of The Rota Foundation  
In Partnership with AVANCE Dallas and 4wardInnovation



Prepared by:  
Parents Step Ahead (PSA)

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Dallas-Fort Worth, Texas

## Prepared for The Rota Foundation

Parents Step Ahead (PSA) is honored to present this impact report highlighting the successful implementation of “STEM Starts at Home,” a bilingual family STEM engagement initiative made possible through the generous support of The Rota Foundation and in partnership with AVANCE Dallas and 4wardInnovation.

Through this initiative, Parents Step Ahead engaged more than 100 parents and indirectly impacted more than 400 family members through a family-centered “train-the-trainer” STEM engagement model.

Parents participated in a hands-on STEM program in which an educator from 4wardInnovation organization equipped them with knowledge about STEM education, innovation, creativity, and the engineering design process through interactive learning experiences. Each participating parent also received a Family STEM Kit designed to extend the learning experience beyond the workshop setting and into the home environment.

Using the knowledge and skills gained during the program, parents were encouraged to complete the STEM activities at home with their children and family members, reinforcing concepts learned during the program through shared family engagement and hands-on exploration.

This model empowered parents to serve as learning leaders within their households, helping spark curiosity, motivation, and excitement around STEM learning among their children. By actively modeling enthusiasm and participation in STEM education, parents helped foster a positive home learning environment that encouraged creativity, problem-solving, and continued interest in STEM-related activities and future career pathways.



## Program Highlights

Participants experienced:

- A hands-on invention and innovation workshop facilitated by an educator from 4wardInnovation organization, experienced in the NASA HUNCH Program
- Interactive activities utilizing the engineering design process
- Parents worked in teams to create solutions to real-world everyday challenges
- Discussions connecting STEM learning to future academic and career opportunities
- Parents received family STEM kit for continued learning and engagement at home



During the hands-on workshop, parents collaborated in teams to explore innovation, creativity, and problem-solving through real-world STEM concepts. They actively engaged in the engineering design process while building confidence in their ability to support STEM learning at home. At the conclusion of the activity, teams presented their inventions to the class, encouraging communication, teamwork, and creative thinking.

Through this interactive “train-the-trainer” model, parents gained practical tools and knowledge that equipped them to engage their children in problem-solving activities at home. By modeling curiosity, and enthusiasm for learning, parents were empowered to help bridge the gap many families experience between wanting to support their children academically and not knowing how to effectively guide them through challenges.



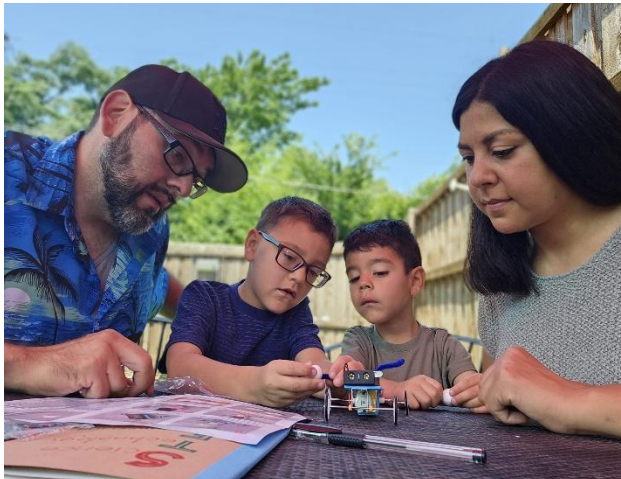
The program reinforced the importance of problem-solving, innovation, and critical thinking skills that students can apply within the classroom setting and throughout their academic journey. By equipping parents with accessible STEM learning strategies and hands-on experiences, the initiative helped strengthen families’ ability to encourage resilience, creativity, and confidence in children as they face academic challenges at school.

This powerful family engagement model demonstrated that when parents are equipped with the proper knowledge, resources, and encouragement, they can become active educational partners who help empower their children to succeed both academically and personally.

## Family Engagement & Community Impact

One of the most impactful outcomes of the initiative was the high level of parent participation, enthusiasm, and continued engagement beyond the workshop setting. As part of the program, participating families received a Family STEM Kit activity to be completed at home using the knowledge and problem-solving strategies learned during the STEM workshop.

Parents were encouraged to apply the engineering design process and hands-on STEM concepts introduced during the program while working collaboratively with their children and family members to complete the activity at home. This approach reinforced the program's "train-the-trainer" model by empowering parents to serve as active learning facilitators within their households.



Families were also encouraged to submit photos of their family STEM activities, showcasing parents and children working together to build, create, innovate, and problem-solve as a family unit. These shared experiences helped strengthen family engagement while fostering curiosity, teamwork, creativity, and enthusiasm for STEM learning at home.

The program created a welcoming and empowering learning environment where parents gained a stronger understanding of how STEM education connects to future academic success, innovation, and career opportunities while building confidence in their ability to actively support their children's educational journey.

The program created a welcoming and empowering learning environment where parents gained a stronger understanding



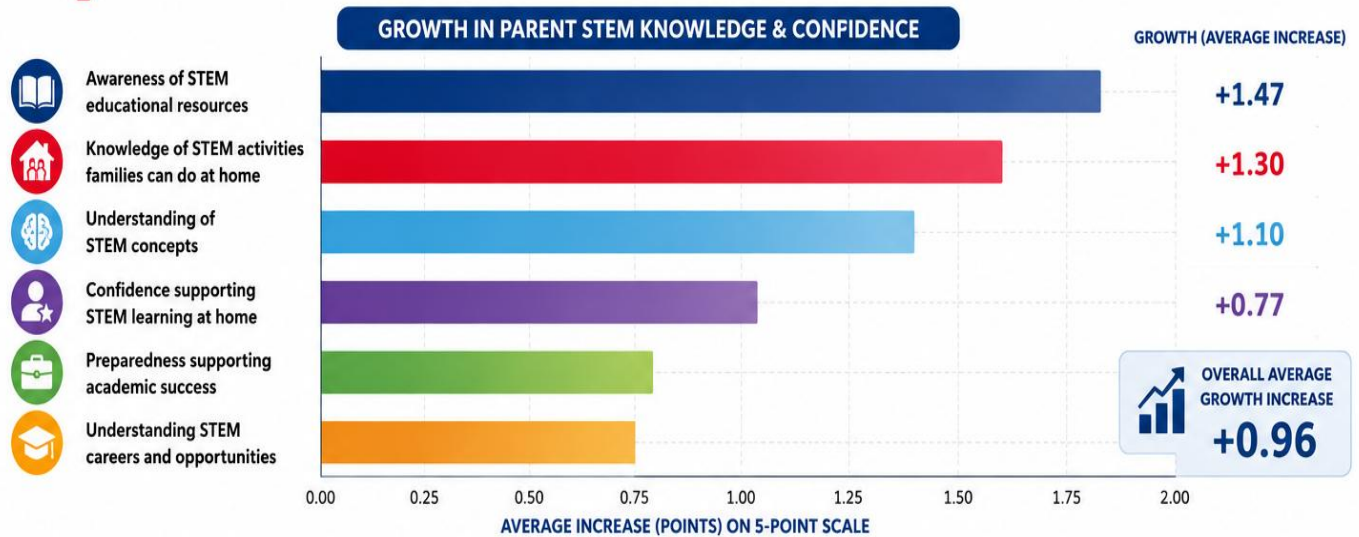
# Program Outcomes & Survey Data



## MEASURABLE PROGRAM OUTCOMES

### Parent Growth from Pre- to Post-Program Surveys

Pre- and post-program survey data demonstrated measurable increases in parent understanding, confidence, and engagement related to STEM education and family learning.



OUTCOME AREA	PRE-PROGRAM AVERAGE (OUT OF 5)	POST-PROGRAM AVERAGE (OUT OF 5)	GROWTH (AVERAGE INCREASE)	% IMPROVEMENT
Awareness of STEM educational resources	2.68	4.15	+1.47	54.9%
Knowledge of STEM activities families can do at home	2.91	4.21	+1.30	44.7%
Understanding of STEM concepts	3.12	4.22	+1.10	35.3%
Confidence supporting STEM learning at home	3.35	4.12	+0.77	23.0%
Preparedness supporting academic success	3.26	3.84	+0.58	17.8%
Understanding STEM careers and opportunities	3.04	3.60	+0.56	18.4%

#### KEY FINDINGS

- ✓ Parents demonstrated the greatest growth in awareness of STEM educational resources.
- ✓ Families reported increased knowledge of STEM activities they can do at home.
- ✓ Survey data reflected stronger understanding of STEM concepts and future STEM career pathways.
- ✓ Parents gained confidence and practical tools to support STEM learning and academic success at home.
- ✓ Program outcomes show the power of equipping parents as active partners in their children's education.

★ These results reflect the impact of our family-centered "train-the-trainer" model, empowering parents to build brighter futures for their children through STEM!

To measure impact, Parents Step Ahead implemented bilingual pre- and post-program surveys utilizing QR-code-based digital data collection systems developed specifically for the initiative.

The initiative collected: **103 pre-program surveys**    **97 post-program surveys**

One of the strongest outcomes revealed a significant increase in parents' awareness of where to access STEM educational resources, highlighting the importance of community-centered family STEM programming.

## Community Visibility & Outreach

Parents Step Ahead highlighted and acknowledged The Rota Foundation's support through organizational social media platforms and community outreach efforts, including LinkedIn.

Program photos, family engagement moments, and workshop highlights were shared to celebrate participant involvement and increase community awareness around the importance of family-centered STEM education.

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Executive Director @ Parents Step Ahead | ...  
22h • 🌐

What an incredible week for Parents Step Ahead! 🎉

With the generous support of The Rota... more

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Dr. Aaliyah Miranda and 1 other

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Day 2 of our STEM Starts at Home program 🎉

What began as a pilot opportunity quickly turned into a highly anticipated program with a... more

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Stephanie Helm and 6 others

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What an incredible week for Parents Step Ahead! 🎉

With the generous support of The Rota Foundation, and in partnership with AVANCE Dallas and 4WardInnovation, we proudly launched our "STEM Starts at Home" program, an innovative parent-focused STEM education experience designed to empower families through hands-on learning, invention, and creativity.

Throughout the week, parents explored STEM concepts, learned about innovation/invention through teachings inspired by the NASA HUNCH program, and worked collaboratively in teams to develop creative solutions to everyday challenges using the engineering design process. The level of creativity, teamwork, and innovation that emerged was truly inspiring. Many parents shared that they never imagined they were capable of creating and innovating in this way. But perhaps the most impactful part of this experience was witnessing parents gain confidence in their ability to support and encourage their children's STEM education journey.

Recently in my career, I was told that parent engagement should not be the focus and that it has no impact. This week reaffirmed the complete opposite. When parents feel empowered, informed, and confident, entire families are transformed. Parent engagement is not secondary work, it is foundational work. By investing in parents, we are investing directly in the future of our children, our communities, and the next generation of innovators, problem-solvers, and leaders.

A special thank you and deep appreciation to the incredible AVANCE Dallas educators, Nancy Quirindongo, Director of Program, Noemi Patino, ECE & Events Coordinator, AVANCE North Texas Executive Director Ana Lorena Carrasco, 4WardInnovation CEO Yaritza Ortiz, and the dedicated Parents Step Ahead volunteers. It truly "takes a village," and we are so grateful for your passion, commitment, and dedication in making this program possible.

This is only the beginning. 💡

#STEMEducation #ParentEngagement #FamilyEmpowerment #CommunityImpact  
#Innovation #STEMStartsAtHome #ParentsStepAhead #NASAHUNCH  
#4wardinnovation.org



## Looking Ahead

The success of STEM Starts at Home demonstrated a strong community need and enthusiasm for family-centered STEM education opportunities. This pilot initiative was intentionally designed to help parents better understand Science, Technology, Engineering, and Mathematics (STEM) in an effort to help bridge the growing gap associated with declining science and math performance among students.

Parents Step Ahead believes that by equipping parents with accessible STEM knowledge, hands-on learning experiences, and practical problem-solving tools, families can become stronger educational partners within the home environment. Beyond simply motivating children, the program empowers parents to serve as leading examples and role models in STEM learning, helping prepare young minds for the rapidly evolving future workforce and innovation-driven world.

Through the program's "train-the-trainer" family engagement model, parents gained the confidence and tools necessary to continue implementing STEM-based activities and problem-solving exercises at home with their children. This approach helps build a sustainable ecosystem of learning within the immediate communities where participating families live, while simultaneously creating a long-term pipeline of empowered parents prepared to support and inspire future generations of learners.

Parents Step Ahead plans to continue expanding family STEM engagement initiatives that:

- increase educational access
- strengthen parent involvement
- support academic achievement
- encourage innovation and creativity
- develop problem-solving and critical-thinking skills
- expose families to future STEM career pathways



We are deeply grateful to The Rota Foundation for investing in educational opportunities that empower families and strengthen communities through STEM learning. Because of this support, families were able to experience meaningful, hands-on educational engagement together, reinforcing the belief that education and STEM learning truly starts at home.

PSA remains hopeful for future funding opportunities that will allow the organization to continue expanding this impactful initiative and deepen family-centered STEM engagement throughout the communities it serves.

## With Gratitude

Parents Step Ahead extends sincere appreciation to:

- The Rota Foundation
  - AVANCE Dallas
  - 4wardInnovation
- Participating educators and STEM professionals
  - Volunteers and community partners
- Participating families for helping make this impactful initiative possible.

