Women of AT&T Girls in Future Technologies Day

Project Overview

viNGN's STEAM FORWARD FOR SUCCESS Project will create Maker Spaces in our public school classrooms.

Maker Spaces are helping to prepare students with the critical 21st century skills needed for the fields of Science, Technology, Engineering, Arts, and Mathematics (STEAM). STEAM FORWARD FOR SUCCESS will provide hands-on learning and increase critical thinking skills, promote team building and boost self-confidence. We often hear: "Innovation is the father of necessity." But we also know that "Necessity is the mother of invention" - BOTH are exactly what we are trying to foster.

We continue to see growth all around us: The University of the Virgin Islands now hosts Cyber Patriots programs; there are Girls Who Code groups on St. Croix and St. Thomas; the non-profit Community Action Now hosts periodic drone and coding camps. IT pros create STEM/STEAM activities in schools; viNGN is often invited to participate in these.

Digital Inclusion Lifts Everyone

Will every student exposed to STEM/STEAM programs become a developer or programmer? We think not. But we do know that overall, higher technical skills are useful in any career. And, advanced digital literacy is a requirement to simply apply for jobs, even those that do not require day-to-day use of technology.

USVI employers cited lack of technical or occupational skills for failure to hire applicants (49%). The U.S. Virgin Islands Department of Labor notes that by 2022, there will be a high need for management personnel and persons with high communications skills. (USVI Dept. of Labor/Bureau of Economic Research Business Needs Survey)

Programs such as these are important, particularly for public school and at-risk students. According to a 2018 Pew Research overview, workers involved in STEM fields enjoy:

- Pay advantage in STEM fields
- Flexibility to pursue careers without a college degree
- Managerial track even in non-STEM fields
- Higher overall pay even in non-STEM fields
- Increasing opportunities for women

Digital skills port very well to non-technical areas as well. (Pew Research Center "7 facts about the STEM workforce")

We are part of a technological revolution!

viNGN has been involved in 100+ digital literacy activities. This includes dozens to introduce children and young adults to STEM-related projects to bridge the digital divide!

Digital Inclusion Bridges the Digital Divide

The National Digital Inclusion Alliance defines "Digital Inclusion" as not only having access to quality internet and technology devices, but also to training and support to enhance the social, educational and professional lives of citizens. With the completion of the territory's all-fiber optic network <u>and</u> maker spaces, this will be POSSIBLE. As the community awakens, the Digital Divide becomes clear, especially for at-risk youths. We are finding that children in the public school system are not as exposed to STEAM programs when compared to children in private schools. We feel that the resultant "skills gap" will adversely influence their ability to thrive professionally and personally as adults. STEM/STEAM programs help children learn to become creators and not merely consumers. This supports entrepreneurship, research, discovery, and innovation. With the right skills, any child can potentially grow up to have global influence.

viNGN will forge a strong partnership with computer science and science instructors in our local public schools. Staff members will offer their time and expertise freely and voluntarily. The 5-week programs will be conducted on St. Thomas, St. John and St. Croix. For measurable outcomes, pre- and post-testing will be administered by our team. This will enable us to witness student growth and focus efforts towards best outcomes. Sessions will last one hour each. During our sessions, students will learn theory, and be immersed in problem-solving, creative and critical tasks, such as coding, engineering, math, and art. After four weeks, we will conclude with a public expo to showcase the projects that the students created. Our aim is to let the children show themselves what they can do; this is what will give them their power. We want them to see themselves in places they could not have imagined when they began training – as knowing makers, gifted creators!

The Program

Week One	Orientation and familiarization with terms and technology
Week Two	Loading and manipulating code to influence output
Week Three	Building and creating code to make music, art, light patterns or robotic action
Week Four	Finalizing creations for expo and generate presentations
Week Five	viNGN STEAM Forward for SUCCESS Expo to showcase completed projects and acknowledge sponsor. All students will receive a certificate and gift from viNGN (and/or sponsor). Community and media invited.

Sustainability

Key to the **STEAM Forward for Success** project is the "long tail" – once sparked, we intend for our educator partners to carry the torch forward. At the conclusion of each program, viNGN will grant the instructor the loan of technology that will enable continued use within the classroom. All that will be required will be a brief report to viNGN each semester on how the equipment is being used. We will retrieve unused items if necessary for re-gifting. In this way, we will be able to offer the support our teachers need to create programming in their classrooms, without coming out of pocket.

Project Status

viNGN has already obtained the Code & Go® Robot Mouse Activity Set for the first cohort. With this kit, participants build mazes and use coding cards to create step by step paths for Colby, the Programmable Robot Mouse. Children will be encouraged to program sequences to enable Colby's race to the reward – delicious cheese!

We are currently working on procuring more tools, to facilitate training in the following areas:

Electronics

Building

Coding

Robotics

Programming

Drones

We appreciate your support, and look forward to your sharing the journey with us! For more information, contact Anita Davis at (340) 715-8581 x 2244 or email adavis@vingn.com.