

Glassboro Education Foundation, Inc.

Send the completed application to the attention of:

Craig Stephenson
Beach Administration Building
Joseph L. Bowe Blvd
Glassboro, NJ 08028

A. General Information

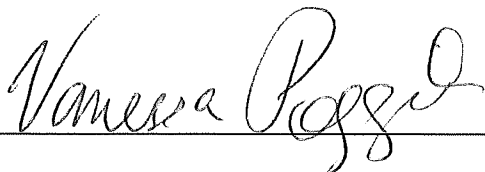
Applicant(s): Vanessa Poggioli
School: Thomas E. Bowe Middle School
Principal: Lauren Kerr
Grade Level or Subject: Grades 6-8
Phone: (school) 856-652-2700 x8190
(Home): 718-354-6381
E-mail(s): vpoggioli@gpsd.us

B. Statement of Assurances:

The applicant hereby assures the Glassboro Education Foundation that:

1. The applicant(s) meet(s) the eligibility criteria.
2. The activities and services for which the grant is sought will be implemented as written.
3. Any monies not expended within the school year shall revert back to the Glassboro Education Foundation, unless permission to carry it into the next school year is granted.
4. All publicity releases regarding a funded project will acknowledge the Glassboro Education Foundation and/or a particular mini-grant sponsor as the funding agency.
5. The grant recipient(s) will submit a final report summarizing the project's evaluation results.
6. The Board of Education authorizes the filing of this application.

We do hereby certify that all of the facts, figures and representations made in this application are true and correct to the best of our knowledge and that the assurances as stated above are understood and will be followed in their entirety.



Signature of Applicant



Signature of Principal

Please note: from this page on, please **do not include your name or your school** in any of your descriptions as all applications are coded to prevent bias.

C. Project Title and Description

Title of Project: 3D Doodling for Everyone

Subject Area(s): Career Readiness, Life Literacies, & Key Skills

Approximate Number of Students Participating: 25

Project Starting Date: 1/3/27 Project Completion Date: 5/31/27

Need: Describe the problem or deficiencies that exist which require the improvements described.

When we began the 3D Printing and Modeling Club in 2019, there was so much student interest that we had a club after school and one during lunch. The club was interrupted by the pandemic and our transition to a middle school. Last year, with the help of Sue Kornicki and the IT department, we were able to access a dedicated computer for the printer and restarted the club. Our goal is to help students envision and create things in three dimensions, to build community, and to foster life skills like collaboration, resilience, and curiosity.

The club turned out to be popular with a variety of students and became an inclusive space for students with multiple disabilities. For some students, using the TinkerCad design software made it tricky to build their own creations. While we had assistance from our paraprofessionals (Ms. McWilliams, Ms. Milou), a custodian (Ms. Myers), and an Information Technology Specialist (Mr. Gibbs), and students collaborated together, it was difficult for some students to fully participate in activities.

Strategy: Briefly describe your plan to alleviate the need/problem.

Thanks to a tip from Dr. Elder, we were able to borrow a set of 3Doodler Create+ Pens from Rowan University's Learning Resource Center-South. They were a game changer. The pens work like a thin glue-stick, allowing students to design their own creations, regardless of their ability to use a computer, read in a specific language, or follow multi-step directions. For students who struggle with technology addiction, the pens provided a screen-free way to create. They could be used by students who needed hand-over-hand prompting and came with mats to protect tables, items to unclog them, and posters with ideas.

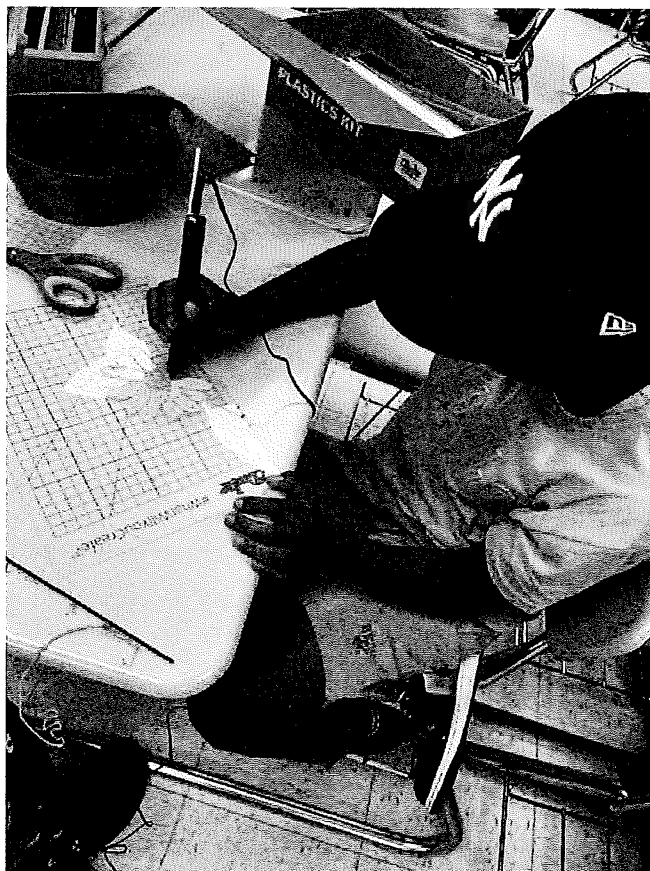
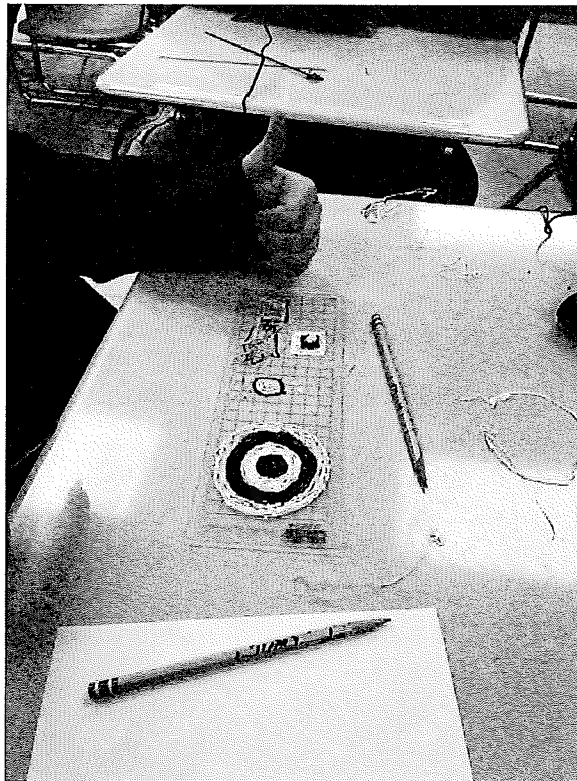
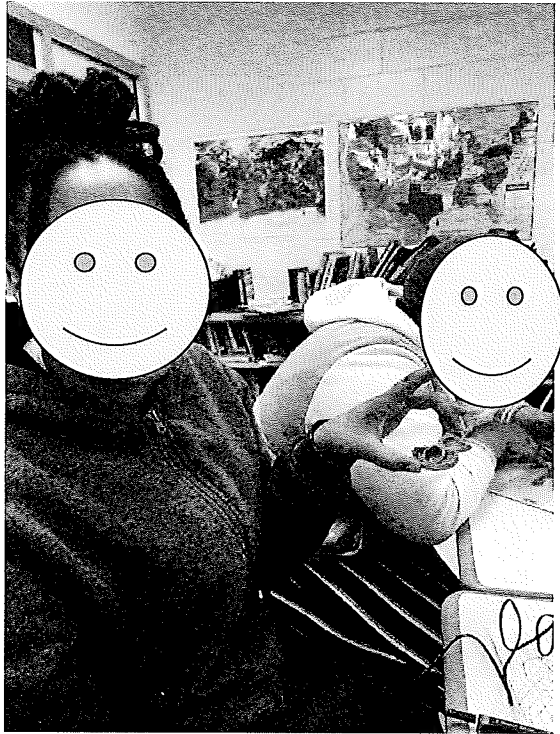
These tools are simple to use but have a complex impact. Unlike some 3D pens, these are more tools than toys. Students can learn about the different types of plastics used in 3D printing (in both pens and machines), better understand what is happening inside the machines, and start creating immediately. To maximize exposure to the pens during our borrowing period, 8th-graders made small items for a special woman in their life for Mother's Day during Study Skills. Students loved the hands-on activity. We want the most students possible to have access to 3D printing and modeling

technology, because it is being used in so many industries and we hope it will help students envision themselves in STEAM careers in the future. These pens are a truly accessible and inclusive way to accomplish that goal. After testing out a number of 3D pens, we have found that the Scrib3D P1 pen, available on Amazon, offers a similar experience at a fraction of the price compared to the 3Doodler pens.

We are sure that we will be able to find many uses for the pens outside of the 3D Printing and Modeling Club. We volunteer to host an after-school training for other teachers who may want to learn how to use the pens in their classroom. The 3Doodler Education and Scrib3D websites have a variety of project and lesson ideas that can be used in the classroom and for clubs including science projects, art ideas, and stencils for larger builds that can be accomplished by a team. There is also a tool that allows 3D models to be converted to 2D stencils for tracing, allowing even more flexibility.

Attachments:

Photos of Bowe Students Using 3Doodler Pens



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D. Objectives, Activities and Evaluation Techniques (This page may be duplicated if necessary)

Objectives	Program Activities to Accomplish Objectives	Completion Date	Evaluation Techniques
- At least 75% of participating students, including students who experience barriers to computer-based design, will have the opportunity to create a 3D project independently or with appropriate support. - At least 3 adults in the school community will learn how to use the 3D pens to support students with a range of abilities and learning needs. - At least 2 teachers will identify a specific way the 3D pens can make a classroom activity more accessible and inclusive for their students.	- Introduce students to the 3D pens through hands-on demonstrations and guided practice, allowing students to begin creating without needing to use computer-based design software. - Provide multiple ways for students to participate in 3D design, including independent work, peer collaboration, visual examples, templates, and adult support when needed. - Offer open-ended design challenges that allow students to work at different skill levels and create projects based on their own interests and abilities. - Provide opportunities for students to experiment, troubleshoot, revise, and share their creations while building confidence,	5/31/27	- Student participation log - Teacher training attendance - Teacher training checklist - Photos of creations

		creativity, and problem-solving skills. • Invite teachers, paraprofessionals, and other school staff to participate in an after-school training on the basic use of the 3D pens and ways the pens can support students with different learning needs. • Work with participating teachers to identify classroom activities where the pens could provide an alternative or more accessible way for students to demonstrate their learning. • Document student participation and completed projects and collect brief feedback from students and adults about how the pens affected their ability to participate in 3D design activities.	
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E. Itemized Budget

Materials/Equipment		Services		Evaluation Techniques	
<u>Item(s)</u>	<u>Cost</u>	<u>Item(s)</u>	<u>Cost</u>	<u>Item(s)</u>	<u>Cost</u>
Scrib3D P1 Pen \$35 x 30	\$1,050			Google Doc for student project tracking	
PLA Refill 640ft \$20 x 10	\$200			Attendance sheet for teacher training	
Organizing Bins	\$50			Skills checklist for safe pen use	
Shipping	\$0			Google Drive folder for 3D pen lesson plans used at Thomas E. Bowe Middle School	
Sub-total:	\$1,300	Sub-total: \$0		Sub-total: \$0	
				Grand Total	\$1,300