

Iterative Development Process

- **Asset Mapping**
 - Conducted in RI, CA and PR
 - Had youth identify their assets, skills and knowledge
- **Prototype Testing**
 - Three rounds in various sites in RI, CA, PR, and MA by Fluent Research
 - Feedback on activity prototypes



Gauging Impact

- **Pilot Study**
 - Conducted at 4 sites in RI, CA and PR by Fluent Research
 - Tested portion of program for 6-weeks
- **Implementation Study**
 - Currently underway, results expected this summer
 - Conducted in afterschool or enrichment programs RI, CA, MA and PR by Fluent Research
 - Testing full Design Squad Latinx program vs. a comparable engineering program



Design Squad Latinx Collection

- Fully bilingual collection
- Consists of
 - Welcome to Design Squad Latinx
 - Four, flexible modules
 - Self-paced educator training and professional development series
- Collection includes 22 videos, 32 handouts, 6 unique engineering challenges, and much more!



The screenshot shows the 'Design Squad Latinx' collection page. At the top, there are four small images showing students working on projects. Below these is a navigation bar with 'Collections > Design Squad Latinx' on the left and 'In This Collection: Media Gallery (12), Document (10), Interactive Lesson (2), Interactive (2), Video (2) for Grades 3-5, 6-8, Resources in Spanish (7)' on the right. The main content area is divided into two columns. The left column has a header 'Design Squad Latinx' and a sub-header 'In this collection:'. It lists two language options: 'In English' and 'En español'. Under 'In English', there are three sections: 'Welcome to Design Squad Latinx!', 'The Modules', and 'Training and Professional Development'. Under 'En español', there are two sections: '¡Feliz llegada a Design Squad Latinx!' and 'Los módulos'. The right column has a header 'Design Squad Latinx' and three social sharing icons: 'Share to Google Classroom', 'Social Share', and 'Add to Favorites'. Below these icons is a paragraph of text in English: 'Design Squad Latinx (DSL) engages kids ages 10-13 in the engineering design process through fun-packed, high-energy, hands-on challenges. Designed for and with Latinx communities in the United States and Latin America, DSL uses a community- and strengths-based approach to engineering. DSL encourages kids to apply their own valuable existing funds of knowledge to solving meaningful problems and, in doing so, supports them in seeing themselves as the designers, engineers, and creators that they are.' Below this is a paragraph of text in Spanish: 'Design Squad Latinx (DSL) aspiran a lograr la participación de jóvenes de entre los 10 y los 13 años en el proceso de diseño de ingeniería. Lo logran mediante desafíos prácticos, llenos de energía y diversión. DSL, que se diseñó con la asesoría y para beneficio de las comunidades latinas de Estados Unidos y para los jóvenes de América Latina, se vale de un enfoque de la ingeniería basado en la comunidad y en las destrezas. DSL anima a los jóvenes a aplicar sus propios y valiosos fondos de conocimiento para resolver problemas significativos y al hacerlo, les apoya para que se vean a sí mismos como los diseñadores, ingenieros y creadores que son.' At the bottom, there is a section titled 'In English' with three cards: 'Welcome to Design Squad Latinx!' (Media Gallery (1), Document (1)), 'The Modules' (Media Gallery (4), Document (4)), and 'Training and Professional Development' (Interactive Lesson (1), Interactive (1), Media Gallery (1), Video (1)).

pbslearningmedia.org/collection/design-squad-latinx

Discover the Design Process

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Discover the Design Process



HANDOUT
CLIENT CARDS

HOJA PARA REPARTIR
PISTA N°3:
CIFRADO DE TRES EN RAYA Y UN MENSAJE EN CÓDIGO

DESCIFREN EL CÓDIGO

Pláticas
Pláticas, or "friendly conversations," are a wonderful way to connect with youth and their funds of knowledge. At the beginning and end of each session, bring everyone together for a conversation about their experiences. Be sure to validate kids' funds of knowledge.

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DESCUBRE
EL
PROCESO
DE DISEÑO



jeroglíficos

Explore Pulleys

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Exploren las poleas



A photograph showing three students (two boys and one girl) working together on a project. They are gathered around a table, looking at a wooden structure that appears to be a pulley system. The girl in the foreground is pointing at the structure.

HOJA PARA REPARTIR

CUADERNO DEL INGENIERO:
LEVANTEMOS LA BANDERA



El desafío: Levantar la bandera a una elevación de al menos 12 pulgadas (30 cm).
Para que el desafío sea más exigente, ¡intenten si pueden levantar la bandera a una elevación de al menos 24 pulgadas (60 cm)!

LIBRO DE IDEAS Y DISEÑO

	¿Qué está funcionando?
Prueba 1	
Prueba 2	
Prueba 3 (después del video)	

FOR EDUCATORS


ANCIENT ENGINEERING WONDERS



Two photographs of ancient pyramids. The top one shows the Pyramid of the Sun at Teotihuacan, and the bottom one shows the Pyramid of Cholula. Both are large, stepped structures made of stone or mud-brick.

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What is a pulley?



A diagram of a pulley system. It shows a rope passing over a wheel (the pulley) that is attached to a fixed point. The rope is also attached to a weight, and the weight is being lifted. The background is a blue grid.

Create Your Own Engineering Challenge

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Create Your Own Engineering Challenge



A photograph showing three students in a classroom setting, focused on their project. One student is pointing towards something off-camera, while the others look on attentively. They are surrounded by various materials and tools on a table.

HOJA PARA REPARTIR

**EL CUADERNO DEL INGENIERO:
CREEN SU PROPIO DESAFÍO**

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EL CLIENTE:
SU PROBLEMA:
LA SOLUCIÓN:

¿QUE MATERIALES NECESITAN?


¿Qué está funcionando bien?

Prueba 1
Prueba 2
Prueba 3 (después del rediseño)

HANDOUT

THE DESIGN PROCESS

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graph TD; A(Identify Client and Problem) --> B(Brainstorm and Design); B --> C(Build, Test, Redesign); C --> D(Share Solution)
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A flowchart titled 'THE DESIGN PROCESS' showing four steps in ovals: 'Identify Client and Problem', 'Brainstorm and Design', 'Build, Test, Redesign', and 'Share Solution'. The steps are connected by arrows in a clockwise cycle.

Funds of Knowledge and the Engineering Design Process

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A collage of three images: a person working with a blender, a person wearing a headset, and a person holding a red ball.

· experiencias

Showcase Your Work

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Expongan su trabajo



HANDOUT

**ENGINEER'S NOTEBOOK:
OUR PRESENTATION PLAN**

Directions: You've mapped out your engineering design story. Now think about how you'll tell it. As a group, plan your presentation and break through the details.

How will you tell your story? What props or visuals will you use? Who will do what? (Everyone in your group needs a role.)

What technology will you use?

HANDOUT


**ENGINEER'S NOTEBOOK:
OUR ENGINEERING STORY!**

Directions: Review your engineering design story, from beginning to end. Think about the parts that are interesting or important to tell. Don't forget to include the fun bits of knowledge you used throughout the process.

Beginning	Think about the client and their mission. What parts are interesting or important to tell?	What fun bits of knowledge did you use in the beginning of your story?
Middle	What happened in the middle of your design story? Note any difficulties that you had to overcome.	What fun bits of knowledge did you use in the middle of your story?
End	Did you solve your client's problem? What did you learn? What else is important to share?	What fun bits of knowledge did you use in the end of your story?

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7 Suggestions for Super Successful Showcasing



Training and Professional Development

Design Squad Latinx Leader Training

MENU MY WORK GLOSSARY ENGLISH ESPAÑOL PAGE 2 OF 19

What to Expect

This training is broken down into four parts:

PART 1 - ENGINEERING & THE DESIGN PROCESS

PART 2 - DESIGN SQUAD LATINX

PART 3 - CLUB LEADER CONFIDENCE

PART 4 - CLUB LEADER TOOLKIT

As you work your way through the four parts, you will engage with interactive activities, watch videos, take short quizzes, and answer reflection questions. **Remember to click "Save" throughout so you can have a collection of your responses (found under "My Work") to use as a reference.**

By completing this training, you will:

- Be able to facilitate kid-centered engineering activities that embody the flexible and iterative nature of engineering and the design process
- Be able to explain why and how this program is designed for Latinx kids
- Gain confidence in running engineering and design thinking programming, even with no previous knowledge of these concepts
- Be able to find program resources and know how and when to utilize them

Ready to dive into the world of engineering? Let's get started!



Professional Development: Funds of Knowledge

Media Gallery Grades: 3-5, 6-8 Collection: Design Squad Latinx

Teacher view

Student view



Resource 1 of 3

Funds of Knowledge: Discover It

In this video, Dr. Mejia introduces the concept of "funds of knowledge" and provides background on its research and the role it plays in Latinx youth education.

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Support Materials for Teachers

BACKGROUND READING

[Background Essay | Professional Development: Funds of Knowledge](#)

DISCUSSION QUESTIONS

[Reflection Questions | Professional Development: Funds of Knowledge](#)

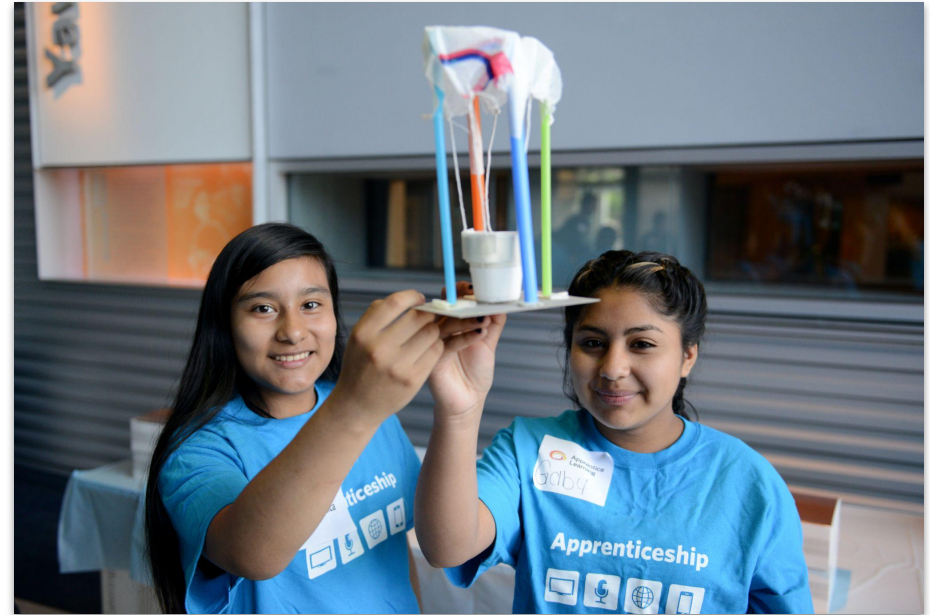
FURTHER INFORMATION

[Should Rey Mysterio Drink Gatorade?: Cultural Competence in Afterschool STEM Programming](#)

[STEM Education through Funds of Knowledge: Creating Bridges between Formal and Informal Resources in the Classroom](#)

Coming Soon- Design Squad Latinx Event Guide

- Hands-on event activities
- Ideas for finding community engineer/student volunteers
- Tips for working with volunteers
- Event checklist
- Post event survey



Thank you! Questions?

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