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NATIVE AMERICAN HERITAGE MONTH

Danielle Boyer

Robot Inventor and Teacher

A Robot That Helps Languages Live

Danielle Boyer is Ojibwe, a member of the Sault Ste. Marie Tribe of Chippewa Indians. She started teaching science to other kids when she was just 10 years old. When she was a teenager, her younger sister wanted to join a robotics team, but it cost hundreds of dollars. Danielle decided that every kid should be able to build a robot, no matter how much money their family has.

In 2019, when she was 18, Danielle started a nonprofit called **The STEAM Connection**. It sends robot kits to kids for free. One of her robots, called EKGAR (short for "Every Kid Gets A Robot"), costs less than \$20 to build. Her robots are made with a **3D printer** that uses recycled plastic.

Danielle's best-known invention is the **SkoBot**, a small robot that you wear on your shoulder. Many Native languages have only a few fluent speakers left. The SkoBot helps kids learn them. When a student says a cue word, the robot listens, figures out which word it heard, and plays a recording of a fluent speaker saying words or phrases in the language.

Every robot works the same basic way. It takes in **input** (like a sound), **processes** it (decides what the input means), and gives an **output** (like playing a recording). Danielle teaches Native students to build and program SkoBots themselves.

WORDS TO KNOW

- **input:** Information that goes into a machine, like a sound, a button press, or a picture.
- **output:** What a machine does or gives back after it processes the input, like a sound or a light.
- **3D printer:** A machine that builds a solid object one thin layer at a time from a computer design.

Part 1 • Reading Comprehension

1. What problem made Danielle want every kid to be able to build a robot?

2. What does The STEAM Connection do?

3. How does the SkoBot help kids learn a Native language?

4. What are the three basic steps every robot follows?

Part 2 • Robot Detective: Input → Process → Output

Trace what a SkoBot does, one step at a time. For each moment below, write whether it is an INPUT, a PROCESS, or an OUTPUT.

1 A student says the cue word out loud to the robot.

2 The robot's program figures out which word it just heard.

3 The robot plays a recording of a fluent speaker saying the word.

4 Now think of a different machine you use (a microwave, a video game, a doorbell). Name its input, process, and output.

Part 3 • Think About It

Danielle gives her robot kits away for free instead of selling them. Why do you think that matters to her?

