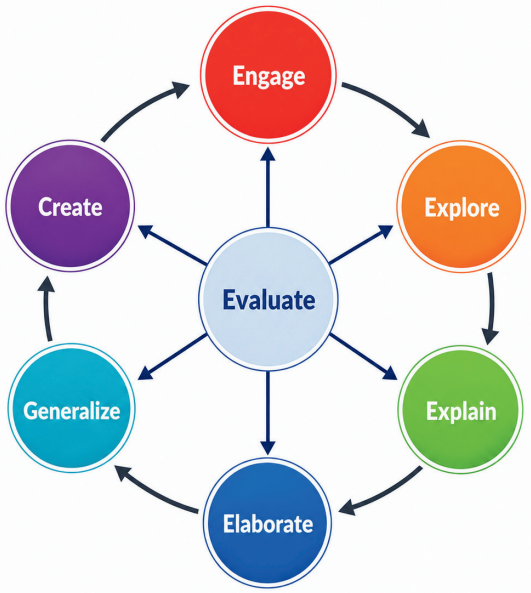
Barobo RoboBlocky

Instructional Approach

Coherent Teaching and Learning from TK–12

RoboBlocky combines research-informed instructional frameworks, interactive technology, hands-on robotics, and structured collaboration to support deep learning across mathematics, STEAM, computer science, and engineering design.

Students progress from users of technology to creators of technology.



RoboBlocky 5E+GC Instructional Framework™

A coherent learning progression that helps students build understanding, apply and generalize ideas, reflect on learning, and create original solutions.

Student Learning Experiences

- RoboBlocky Explorations with Thinking-Classroom-Style Problems and Discussions
- Write to Explain Activities
- Big Idea Tasks and Projects
- Unit-Embedded RoboPlay™ Adventures and Challenges

RoboBlocky Instructional Strategy for Excellence (RISE)

1 Warm-up

Engage

Spark curiosity, connect prior knowledge, and introduce key ideas.

2 RoboBlocky Lesson

Explore & Explain

Develop understanding through instruction, examples, and student talk.

3 RoboBlocky Activities

Explore, Explain, & Elaborate

Deepen learning through guided practice and collaborative group work.

4 Applications

Elaborate, Generalize, & Create

Apply and extend learning through authentic tasks

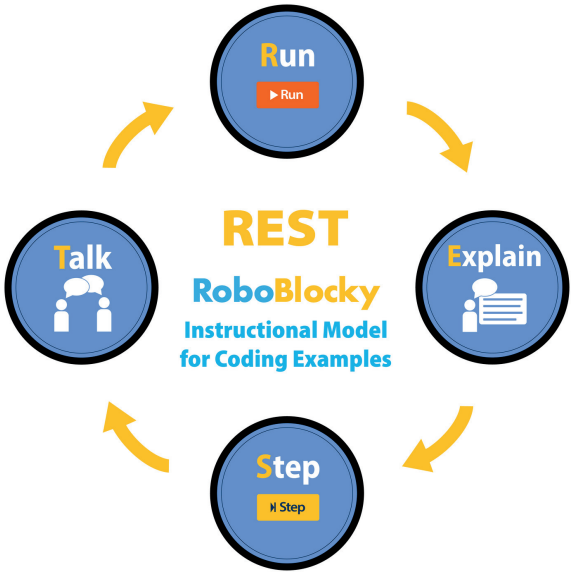
5 Reflection

Generalize

Consolidate learning and capture the lesson's Big Idea.

The **RISE™ Instructional Strategy** provides a practical classroom sequence that supports engagement, instruction, collaboration, application, and reflection.

Instructional Models and Routines



The **REST™ Instructional Model** uses interactive examples to help students predict, test, explain, and discuss ideas as they learn.

The **5-Step MODEL Mathematical Modeling Process** guides students to connect mathematical modeling and program structure to represent, calculate, test, and communicate solutions to real-world problems.

Structured Student Talk supports students as they rotate through **Operator**, **Explainer**, and **Questioner** roles to test ideas, explain reasoning, ask questions, and build on each other's thinking.

The **DREAM 5-Step Engineering Design Process** guides students as they design, build, program, test, and refine robot machines to solve authentic problems.

Professional Learning

Teachers progress from users of curriculum to developers and innovators of curriculum.

Learn → Implement → Customize → Develop → Innovate

- Apply instructional framework, strategy, models, and routines.
- Facilitate Structured Student Talk, reasoning, collaboration, and student agency.
- Differentiate instruction and support diverse learners.
- Customize lessons, activities, projects, assessments, and RoboPlay™ experiences.
- Develop curriculum resources aligned with local needs.



Flexible Professional Learning Options

- Scheduled online and in-person learning opportunities
- Customized learning for schools, districts, County Offices of Education, state agencies, and other educational organizations
- Follow-up coaching, ongoing implementation support, Professional Learning Communities, and peer mentoring

"A ton of connections were made in order to help build my confidence to deliver lessons to my students."
— Ashley Trower, 5th Grade Teacher, Marysville, California

Explore Professional Learning

UCMERCED | **Professional & Continuing Education**

Continuing Education and Credential Opportunities

UC Merced Professional and Continuing Education (PACE), in partnership with Barobo, Inc., offers a CTC-aligned Computer Science Supplementary Authorization program and Continuing Education Units (CEUs).

One Robot. One Platform. Unlimited TK–12 Learning Opportunities.

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