Learning by Making Logic Model

**Inputs**

Mendocino County (MC) Support
Sonoma State University (SSU) Curriculum Development Specialists
Logo Curriculum Development Specialists
i3 Funding

**Activities**

SSU provides professional development (PD) to MC high school science and mathematics teachers
SSU provides opportunities for teachers to share resources via online platform
SSU provides integrated, science-driven computational-thinking based STEM curriculum (Learning by Making curriculum) for grades 9-12

**Outputs**

Teachers attend a five-day summer institute each year
Teachers attend five follow-up PD each year
Teachers will share resources in the online platform
Schools accept Learning by Making curriculum as an elective course
Teachers teach Learning by Making curriculum

**Participation**

Teachers’ use of computational thinking based and project based learning in classrooms

**Short**

Teachers’ competence in delivering computational thinking based STEM curriculum increases

**Medium**

Students actively use computational thinking based and project based learning in classrooms
Students’ interest and confidence in STEM increases

**Long**

Student achievement as measured by California State Standardized Test in science and mathematics increases
Student college qualifying exam scores increases
MC graduates’ college acceptance and completion rates increase
Number of MC graduates who choose STEM fields for their college major increases
Number of STEM professionals from under-represented and high-needs groups increases

**Assumptions**

- Student difficulties with mathematics stem from a lack of context and connection to the real world
- Students’ low-income status limits access to technology
- Rural students face additional barriers to success

**External Factors**

Rapid changes in technology necessitate updates of implementation platform