

## Abstract

The Orange County Department of Education (OCDE), in partnership with Inflexion, will lead the *Building Toward Computer Science Equity and Inclusion: Developing an Ecosystem of Supports* project. The central aim of this project is to develop and implement equity-minded interventions to improve the career pathway and workforce trajectory for underrepresented and underserved youth across the Information, Computer Science, & Technology sector, one of Orange County's in-demand emerging and priority industry sectors. The proposed longitudinal quasi-experimental design intervention will be implemented in 16 high schools (grades 9-12) in Orange County, California, reaching approximately 32,000 students. An additional 16 high schools, selected based on Propensity Score Matching (PSM), will serve as a comparison group to be monitored on key outcome indicators over time. The project will provide organizational supports, incorporating key systems, for computational and design thinking (*Absolute Priority 1—Demonstrating a Rationale, and Absolute Priority 2: Field-Initiated Innovations-- STEM*), with a focus on creating an ecosystem for effective access, engagement, and inclusion of female students and students of color in Computer Science (*Competitive Preference Priority 1*).

The proposed interventions are anchored in three key phases: (1) Build Computational Thinking (CT) Skills through Academic Instruction Focused on Inclusive Practices and Culturally Relevant Teaching; (2) Build CS-Inclusive Identity through Social Emotional Learning and Exposure to Role Models; and (3) Create an Ecosystem of Supports and School-Wide CS Identity Through Community of Practice. To ensure the fidelity of implementation, each phase will engage in a Plan-Do-Study-Act (PDSA) cycle to achieve continuous improvement. Through successful iterations and refinements, this model can be generalized to be replicated across schools with similar demographics and characteristics.