Computational Thinking (CT) Development Pathways
Research Practice Partnership (RPP)

RPP Strategy & Goals
Our Research Practice Partnership (RPP) seeks to strengthen Computational Thinking (CT) and build a pipeline to STEM careers for students in South Central Los Angeles by identifying the critical academic and support systems students need to acquire foundational Computer Science knowledge, skills, and competencies. We seek to achieve this by creating a vertical articulation model between Augustus F. Hawkins Critical Design and Gaming School (C:/DAGS) and John Muir Middle School (JMMS) through near-peer mentoring.

Background & Methodology
This RPP builds upon our previous project that followed 9th grade C:/DAGS students to identify the key supports necessary to build foundational knowledge, skills, and competencies associated with Computer Science (CS) as aligned with the Exploring Computer Science curriculum. This RPP Pathway proposes to generate impact for students in increasing their mathematical and CT skills, strengthen partnerships with key STEM industries and organizations, and continue building relationships with relevant community stakeholders. Finally, this RPP will inform meaningful research that contributes towards future CT/CS scholarship and education activities that can make this RPP scalable in other communities with similar racial and economic characteristics.

Anticipated Outcomes
We have developed strong partnerships between senior-level LAUSD administrators, C:/DAGS, JMMS, and UCLA. Our model for co-constructing CT development through teacher-centered pedagogy and near-peer mentoring can inform teachers’ instructional approaches to CT development. C:/DAGS has been intentional about CT development, as evidenced by integrating CT and CS into their school-wide curricular goals. This RPP Pathway will help foster and strengthen this system that is already in place. Finally, this RPP Pathway can inform district intervention policies and practices seeking to effectively close learning gaps; particularly gaps in mathematics for historically marginalized groups.

We are excited about the possibilities for building new partnerships in the community between students, families, educators, mentors, schools, industry partners, and UCLA. We are hopeful students will want to return to the program as college-age mentors due to their involvement in the program. We anticipate new and unique outcomes from C:/DAGS and JMMS; two school communities that will benefit significantly from stronger connections in South Los Angeles.

Supported By

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Computational Thinking (CT) Development Pathways
Research, Practice, Partnership (RPP)

Mentorship
Research & Project Management
Educator & PBL Support
Mentor Training
Place-Based RPP DESIGN ELEMENT
Informing Research & Practice

COMPETENCY
Confidence in dealing with complexity

COMPETENCY
Tolerance for ambiguity

COMPETENCY
The ability to deal with open-ended problems

COMPETENCY
Persistence in working with difficult problems

RPP DESIGN ELEMENT
Collaborative

RPP DESIGN ELEMENT
Place-Based

RPP DESIGN ELEMENT
Co-Designed

COMPETENCY
The ability to communicate and work with others to achieve a common goal or solution

MUIR MIDDLE SCHOOL
C:\DAGS

COMPETENCY
The ability to deal with complex problems