CodeVA receives NSF Computer Science for All (CSforAll) Grant "Equipping for Praxis: Advancing Computer Science Teachers Through Endorsement"

CodeVA will work with James Madison University and Virginia public school teachers to develop a state-wide professional development for computer science teacher endorsement

Richmond, VA: The National Science Foundation has awarded CodeVA a CSforAll program grant for the proposal "[Equipping for Praxis: Advancing Computer Science Teachers Through Endorsement](...)" (*Equipping for Praxis*).

The 3-year, $999,968 project award will be co-led by a Researcher-Practitioner Partnership (RPP) consisting of education professionals and researchers from CodeVA, James Madison University, Richmond City Public Schools, Norfolk Public Schools and Fairfax County Public Schools. The RPP will design and implement professional development (PD) for Career and Technical Education (CTE) teachers in Virginia and lead them to computer science (CS) endorsement. The project will be overseen by Principal Investigator (PI) Dr. Perry Shank (CodeVA), and co-PIs Teresa Cole (CodeVA), Dr. Christopher S Mayfield (JMU), and Shelita Hodges (Richmond City Public Schools).

Announced August 24, 2022, this award is CodeVA's 3rd federal research grant and 2nd project funded under the CSforAll program. The NSF's CSforAll program focuses on projects that foster the research and development needed to bring CS and computational thinking (CT) to all schools. Specifically, this program aims to provide high school CTE teachers with the preparation, PD and ongoing support they need to teach rigorous computer science courses.

PI Perry Shank says of the collaborative nature of the RPP, which pairs university research professionals and classroom teaching professionals, "The approach is essential for elevating the voice of educator practitioners so that designed solutions are rooted in the experience of their individual contexts."

A central focus of the national push for computer science K-12 literacy is on broadening participation among students from underrepresented groups in computer science-related fields and industries. This research grant focuses on broadening participation in high school CS courses by increasing the number of teachers who teach high-level CS courses in schools with large percentages of students from low-income or other underserved populations.

The project has two goals: (1) design personalized PD that is effective in training CTE teachers from a variety of education and CS skills backgrounds and (2) increase the number of prepared and endorsed CS teachers who teach higher-level skills and concepts at high schools enrolling underserved student populations.

Project co-PI Shelita Hodges, who is a CTE instructional teacher leader at Richmond City Public Schools and a facilitator with CodeVA, is hopeful that participating CTE teachers will gain endorsement in CS and apply those skills to their classrooms.

The 12-month *Equipping for Praxis* PD will be designed to allow for personalized pathways that account for the range of prior knowledge and experience of the participating teachers. The first phase of the PD program will prepare teachers to pass the CS Praxis test, and the second phase will provide them with deeper knowledge of CS content, technical skills, and pedagogical methodologies. Teachers who participate in the PD will pass the CS Praxis exam, earn a CS endorsement, increase confidence in offering CS content in their classes, and build identity as CS teachers who will teach over the long term.

About CodeVA: CodeVA is a non-profit that partners with schools, parents, and communities to bring equitable CS education to all of Virginia's students based in Richmond, VA. CodeVA's direct student programs serve students in the Richmond region and statewide, and its advocacy has helped define Virginia's CS K-12 landscape. Since 2014, CodeVA has provided no-cost professional development for Virginia teachers. Learn more at codevirginia.org/

About James Madison University: Founded in 1908, James Madison University is a public university located in Virginia's Shenandoah Valley. JMU is one of the nation's leading lights in higher education, where students enjoy engaging relationships with world-class faculty who drive education innovation and support advanced research. Learn more at jmu.edu

About the STEM Education Evaluation Center (SEEC) at TERC: SEEC offers evaluation, research, and consultation for STEM education programs and projects. TERC is a research and development nonprofit made up of math and science education and research experts with a passion for social justice, who work at the frontiers of theory and practice to develop deeper understandings of learning and teaching. Find out more at terc.edu/seec/

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