The Honorable L. Louise Lucas
President *Pro Tempore,* Senate of Virginia
P.O. Box 700
Portsmouth, VA 23705

The Honorable John Avoli
Chairman, House Education Committee
P.O. Box 1942
Staunton, VA, 24402

September 29, 2023

Superintendent Coons, Secretary Guidera, Senator Lucas, and Delegate Avoli

Pursuant to the budget of the Commonwealth of Virginia, "CodeVA shall report, no later than October 1 each year to the Chairmen of the House Education and Senate Education & Health Committees, Secretary of Education, and the Superintendent of Public Instruction on its activities in the previous year to support computer science teacher training and curriculum development, including on collaboration with other stakeholders to avoid duplication of efforts."

Please see enclosed for our annual report.

Thank you.

Respectfully,

Chris Dovi
Executive Director, CodeVA

Cc: Deputy Secretary of Education Sarah Spota; Deputy Secretary of Education Justine Taylor-Raymond; Senator Janet Howell, Chair, Senate Finance & Appropriations Committee; Delegate Barry Knight, Chair, House Appropriations Committee; Senator Ghazala Hashmi, Chair, Senate Education & Health Public Education Subcommittee; Delegate Carrie Coyner, Chair, House Education Early Childhood & Innovation Subcommittee; Marcey Sorensen, Deputy Superintendent for Educational Leadership and Administration

CodeVA 2022-2023 State Report

CodeVA shall report, no later than October 1, each year to the Chairmen of the House Education and Senate Education & Health Committees, Secretary of Education and the Superintendent of Public Instruction on its activities in the previous 2022-2023 to support computer science teacher training and curriculum development, including on collaboration with other stakeholders to avoid duplication of efforts.

Introduction and Highlights

CodeVA is a Virginia-based nonprofit that partners with schools, parents, and communities to bring equitable computer science education to all of Virginia's students. CodeVA's educator programs, services and curricular resources are provided at no cost to Virginia public school divisions and teachers, with a focus on creating equitable access to resources that school divisions need to implement the Virginia Computer Science Standards of Learning. Founded in 2013 as a response to a dual critical shortage of computer science educators and computer science workforce-ready graduates in Virginia, CodeVA's work with students, parents, teachers, school districts, industry partners and policymakers is statewide in scope and impact. Since its founding, CodeVA has provided tens of thousands of teachers with no-cost professional learning.

During 2022-23, CodeVA's impact continued to grow even as it evolved in how it delivers school and teacher support, providing professional learning opportunities to 2,043 Virginia public educators. The CodeVA professional learning programs, along with other offerings, such as curriculum resources and workshops and direct student programs for public school districts, directly impacted at least 29,820 students (see the breakdown in the chart below) just this year. This number does not consider ongoing student impact from prior year educator support, nor does it consider CodeVA's direct student programs and efforts to expand student engagement in partnership programs like CyberStart America.

CodeVA's objectives are to train Virginia's K-12 educators in how to teach computer science (CS) and computational thinking and to broaden participation among minoritized students and underrepresented groups in STEM+C (Science, Technology, Engineering, Mathematics, and Computer Science), with the goal of expanding the breadth of students engaging in STEM+C careers, while preparing every student to graduate with fundamental CS knowledge. CodeVA advances these goals through a multifaceted approach, including public advocacy and awareness, funded research programs, public educator training programs and curriculum development, and direct student programs. CodeVA receives an annual $550,000 allocation from the state of Virginia via the Department of Education that funds a portion of the educator programs (teacher professional development, school-level programs, and curricular resources) mentioned above. This state funding has remained flat

since it was first allocated in 2015 (a year before the CS SOLs law was enacted), while CodeVA's services have been required to rapidly expand to meet statewide educator needs.

Virginia has maintained its leadership in policy and implementation of K-12 CS - an important distinction and accomplishment nationally, considering the growing competitiveness among states to attract high-tech employers and entrepreneurs. Though this trend is slowing, as more states enact CS mandates, either as a high school graduation requirement or as an integrated learning requirement like Virginia's law. In 2018, partly on the strength of its K-12 CS commitment, as stated in the Virginia Computer Science Standards of Learning, Virginia became Amazon's choice for its HQ2.

In 2022, Governor Glenn Youngkin announced a planned Virginia *Computer Science Lab School Network* as part of his larger lab school initiative, and CodeVA has actively supported this effort through intensive efforts to connect and foster dialogue and collaboration between potential lab school partners across regions. CodeVA has also maintained an active bi-monthly Lab School/Stem Hub working group of partners that meet to troubleshoot issues and share ideas about their active proposals. To date, this effort has resulted in multiple successful lab school planning, as well as implementation grants focused on CS. Furthermore, it has led to numerous active partnerships that have progressed outside the lab school framework, resulting in collaborations between higher education and K-12. Participants include Chesapeake/ODU, Stafford/Mary Washington, GMU/(various LEA partners), Loudoun (still seeking partners), New College Institute, UVA, CodeRVA/VCU, and Harrisonburg (sought an ACSE grant instead, but proceeded with a model that has elements of a lab school).

As we enter the 2023 - 24 school year, we are seeing several changes in the overall education landscape impacting CS implementation. First, the teacher shortage divisions are experiencing, and general societal changes post-pandemic have negatively impacted teacher professional learning. This shift in what sort of professional learning educators currently need and how they can access it is reflected in recent updates to CodeVA's educator programs. Second, the Virginia Computer Science Standards of Learning, passed by the State Board of Education in 2017, are ready for their first revision. These standards are currently under review and are anticipated to be released later in the 23-24 school year. This

means that all of CodeVA's professional learning programs, curricular resources, and integration tools will need to be updated to reflect the most up-to-date standards for educators and students.

2022 - 2023 Educator Impact	Sessions	Educators
Statewide Professional Learning Courses	28	690
In-Division Professional Learning	10	194
Virginia Conference Presentations	44	
Virtual Virginia	3	348
Totals	**85**	**1,232**

Table 1 shows the impact of educator programs for 2022-2023
(ed's note: no conference attendance totals are included due to inconsistency in third-party attendance records)

2022 - 2023 Student Impact	Students
Estimated student impact - Educator Programs	29,004
Virtual Virginia	295
JROTC	521
CS Ready	2,427
	32,247

Table 2 shows estimated student impact

Estimated impact uses the National Center for Education Statistics (NCES) database

Virtual Virginia represents student enrollment in CodeVA-developed courses

CodeVA Educator Programs

CodeVA's service model is unique in the United States. As an independent nonprofit that operates as a statewide public-private partnership initiative, CodeVA pairs state funding and collaboration with corporate and foundation funding. Through this unique model, CodeVA has leveraged and amplified investment in Virginia's CS K-12 infrastructure by building statewide partnerships and infrastructure so that every student in Virginia has opportunities to experience high-quality computer science education. All of its programs, as part of its remit as a state program supporting Virginia's computer science Standards of Learning, are offered at no cost to all Virginia divisions, schools, and educators.

To ensure the quality of its programs, CodeVA focuses on three main service elements.

First, the delivery of high-quality computer science professional learning through eight partner hubs across the state. This model, since Covid, has evolved to meet teacher needs by still relying on the hub partners as collaborators but also extending PL offerings to virtual spaces, allowing far more educators to participate. This model ensures all educators, from classroom teachers to administrators have access, when they need it, to localized professional learning. **Second**, CodeVA has developed a highly trained faculty consisting of current and former classroom teachers with training and experience in computer science education, developing a nationally recognized - and increasingly replicated - standard for continuing professional development and recertification. **Finally**, to provide a locally relevant curriculum, CodeVA has built a team of curriculum writers that generate classroom resources and materials for professional learning. These three elements weave together to form a foundation for computer science education to flourish in Virginia and for the state to maintain its leadership nationally in the computer science field.

These investments have built a strong foundation for computer science education in Virginia, but much more remains to be done. CodeVA is proud to act in service and collaboration with our partners at the Virginia Department of Education to ensure access for all students. It is no small challenge to ensure all Virginia students have access to high-quality computer science instruction: Computer science represents the first addition in over 50 years of an entirely new subject to public schools.

Virginia was the first state to mandate the inclusion of computer science in K-12 instruction. The computer science standards are structured so that computer science is integrated into core instruction in kindergarten through eighth grade, with optional electives for middle and high schools. The first version of the standards was adopted by the Virginia Board of Education in 2017, and they are currently under revision by the Virginia Department of Education (VDOE). This routine revision ensures the standards are up to date from a technological perspective (examples include advances in artificial intelligence and the addition of data science by VDOE across other content areas) and reflects what has been learned about student learning in computer science education over the past five years.

> *"This was a wonderful experience. I learned a lot. I can't wait to use what I learned with my students. Thank you so much!" - Educator Programs Participant*

CodeVA offers free professional learning opportunities to educators across Virginia. The programs, presently primarily delivered virtually, cover grade- and age-appropriate computer science content and teaching strategies. Programs vary in format and content, from year-long intensives supporting high school level courses to shorter sessions, allowing teachers to concentrate on distinct elements of computer science instruction.

A particular focus of CodeVA's programs, both professional learning and curricular, is integrating computer science into other content areas. This requirement has two levels of complexity, as both computer science and the techniques of integration are often new to classroom teachers.

2022 Educator Professional Learning Needs Assessment

In the fall of 2022, CodeVA's Educator Programs team, responding to the change in educator engagement with professional learning seen by providers nationally, conducted an in-depth needs assessment. The purpose was to understand what Virginia educators need in terms of professional learning modes, formats, timing, barriers, and many other factors that contribute to their participation. The needs assessment also explored how educators best receive professional learning.

The survey was shared broadly, and 843 educators from across the state responded - many of whom had never previously participated in CodeVA courses. Only 19 of Virginia's 131 divisions registered no responses.

The survey resulted in two key findings:

Finding 1: A Need for Increased School Division Partnerships The 2022 needs assessment uncovered several barriers to Virginia educators participating in professional learning. While educators are clearly interested in computer science professional learning, many noted their heavy workload and sessions being scheduled at inconvenient times or locations that make attending difficult.

To understand how educators typically experience professional learning (PL), the 2022 needs assessment explored their current experiences with PL. 72% of respondents receive professional learning through their divisions. They also expressed a desire for shorter, workshop-style sessions vs. multiple-day courses.

Finding 2: Curricular Support CodeVA's professional learning offerings are in alignment with Virginia educators' expressed needs, and the model of continuously updating programs and generating new opportunities supports the needs that the assessment identified. Educators expressed high interest in content related to computer science integration, cross-curricular CS integration, lesson planning, and grade-level-specific integration strategies.

Statewide Professional Learning Courses

CodeVA's Professional Learning programs vary in length, ranging from nine months of PL sessions for CS Ready program participants to single-day sessions or personalized PL for divisions that vary in length from 30 minutes to multiple days. These sessions provide guidance and resources for elementary, middle, and high school teachers to integrate computer science into their core instruction. All programs include, at no cost, all materials and curriculum teachers need to teach their students when they return to their classrooms.

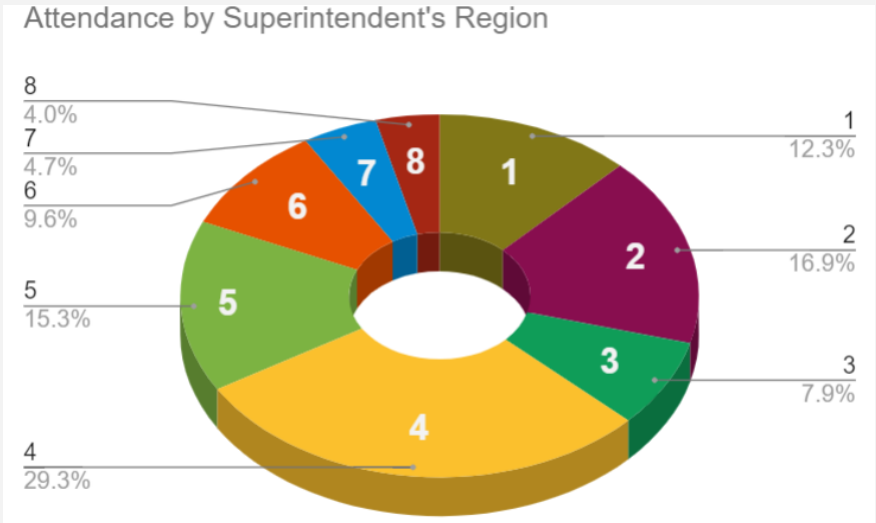
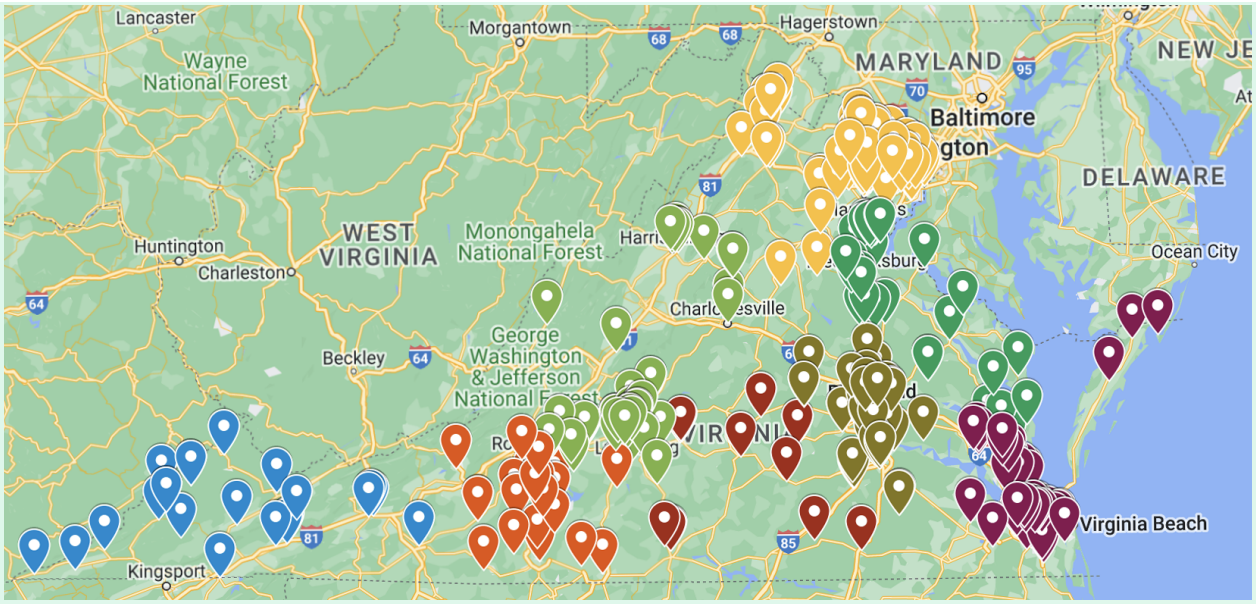


Figure 1: CodeVA 2022-2023 Attendance by Region



The map in Figure 2 illustrates the Virginia public schools with teachers who participated in CodeVA's 2022 - 2023 professional development. This is an interactive Google Map that may be accessed here.

In-Division Sessions

A major finding of the needs assessment was the need for professional learning that teachers can access during their regular work hours. In response, CodeVA's Educator Programs team refocused on providing more support to districts during their divisions' scheduled professional development days. While maintaining the traditional model of programs that educators can select throughout the year, the needs assessment showed that seeking professional learning outside of working hours limited access for many educators. In response, CodeVA began to collaborate directly with divisions to offer professional learning to their schools and/or educators on existing contract days dedicated to professional learning.

Since adopting this new model of program delivery, CodeVA offered 10 sessions in partnership with division and school leaders, serving 194 educators. The Educator Programs team also worked closely with the curriculum team to customize the training content and materials to meet the expressed needs of the school or division.

> *"I was extremely impressed with the quality of instruction and the opportunities for connecting with fellow educators!" - Educator Programs Participant*

By delivering programs in partnership with division and school leaders two major needs are addressed. First, educator barriers to attending are removed. In fact, professional learning conducted on contract days is often mandatory, impacting more educators than opt-in models (participation data supports this). Second, it ensures the resources and sessions delivered are closely aligned with each school's computer science strategic planning. This better facilitates whole-school adoption of CS integration and reduces barriers to implementing computer science in the classroom with students, ultimately supporting more computer science instruction for every learner.

In response to the need for support in planning computer science lessons, CodeVA's Curriculum Team has also begun offering in-person curriculum development sessions. These sessions have been requested by school and division leaders.

Conference Presentations

A regular part of CodeVA offerings are presentations at educator conferences. In 2022 - 23, CodeVA staff presented at 48 conferences, both in Virginia and nationally. These presentations meet teachers at events they already participate in and ensure they walk away with actionable strategies for teaching computer science and access to resources.

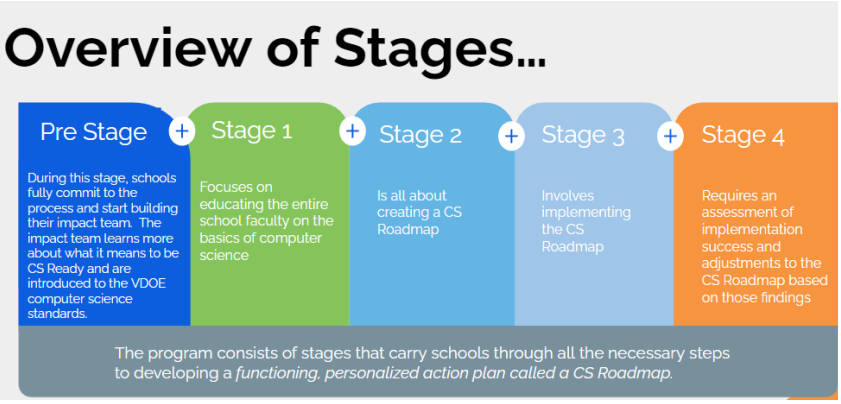
Capacity Building Programs

CS Ready

Adding a completely new subject to public schools is no small feat, and it requires leadership, strategic planning, and investment to ensure all students in Virginia have computer science opportunities. The lack of any such existing comprehensive planning tool for the purpose provided the impetus for CodeVA's development of CS Ready, which has drawn interest from national partners, including Code.org.. With continued funding from Amazon's Future Engineer program, CodeVA 's CS Ready Schools program works with school partners to implement fully, and for all students, the CS SOLs.

This multi-year planning and strategy model seeks to assist school leaders in leveraging all of CodeVA's myriad educator programs and curricular resources, as well as those of other providers, through a guided and highly customizable planning and implementation framework that allows school administrators a clear path to compliance with the Virginia CS SOLs - and to sustainable support for meaningful CS literacy instruction in their schools. Participating schools are guided by CodeVA specialists in creating school-based Impact Teams, developing personalized CS Roadmaps for their schools, and establishing local resources to support school-wide computer science education and culture. Participating schools use CodeVA's free professional learning, curriculum, and resources - and are introduced to various other external resources that are a part of the national computer science education ecosystem landscape - to develop and implement their schools' CS Roadmaps. The roadmap provides a means of measuring progress and adjusting their paths along the way to provide high-quality CS instruction to all students in their learning community.

The CS Ready Program is available for any Virginia public school, but particular emphasis (partly based on underwriting for the program's development) is placed on recruiting those



with a population of at least 50% students eligible to receive free and reduced lunch or with a Title 1 school designation. This program supports the needs outlined by the Virginia Department of Education by creating a sustainable ecosystem of Computer Science education for each participating school and, ultimately, each school division. CS Ready School seeks to accomplish division-level impact by providing teams with iterative metrics and toolkits designed to empower their schools and divisions to utilize the tools independently beyond the initial support and coaching from CodeVA. CS Ready is designed to equip and support teachers, administrators, and other community stakeholders in implementing CS education across grade levels so that every student has equal access to this foundational knowledge.

Each school forms a Computer Science Impact team consisting of school administrators, teachers, and community members working together to create the school's strategic plan. Each participant on these teams averages 36 hours of workshops and individual study during their nine months of participation, all with the goal of learning how to effectively implement computer science courses and integration into their individual schools.

Impact: 46 CS Ready schools - 185 educators engaged - 2,427 students reached

Praxis Prep

One substantial barrier faced by middle and high schools seeking to implement computer science elective courses is the severe shortage of endorsed computer science teachers. The Praxis Prep program supports current teachers in adding the computer science endorsement via the Computer Science Praxis exam. This intensive year-long program tackles the shortage of computer science teachers by developing computer science teaching capacity from within the school faculty.

Total Impact: 43 attendees

Curriculum Development

The final element of CodeVA's service model is curriculum development. This team is responsible for creating classroom-facing materials for teachers to use with students and the materials and resources used for Professional Learning sessions.

> *"This was a really informative session!! I am a certified data analyst/tech support specialist, and the resources provided during the session were really interesting and informative." - Educator Programs Participant*

All CodeVA professional learning curriculum is revised annually based on the feedback from participants and changes in the field. New programs are developed and deployed to ensure that as educators build their computer science skills, follow-up sessions are available to continue to support teachers in building knowledge and capacity for computer science instruction.

To support divisions in building internal capacity for computer science integration, the team developed workshops focusing on building local capacity, knowledge, and skills for developing classroom lessons. This was piloted in 2021-22 through 6 sessions for a group of 16 train-the-trainer teacher participants in the Winchester Public School system.

This pilot allowed for the creation of one-day workshops called Curriculum Jams to generate integrated curriculum products for use in local classrooms. This was made available for schools and divisions across the state in 2022-23.

Go Open VA Curricular Resources Including Data Science

As schools and educators work to incorporate high-quality computer science instruction into regular instruction it is essential that they have adequate resources. In order to ensure these materials are available, the CodeVA curriculum team has added the capacity to develop more materials. To ensure these are widely available, CodeVA leverages the state's

Go Open VA Portal with a Hub containing classroom lessons and materials designed to support curricular planning in schools and divisions. Examples include guides for mapping computer science standards to core curricular standards to be used by instructional specialists and materials for teachers of English language learners.

Data Science

In 2023, an update to the Virginia Mathematics Standards of Learning included the addition of a new Data Science course. This dynamic curriculum offers students opportunities to connect mathematics to real-world experiences. Leveraging the state's Go Open VA portal, CodeVA launched a series of modules to support teachers in implementing this new curriculum in November 2022. The project-based learning resources include CS-relevant unplugged (off-computer) activities, lessons using the Common Online Data Analysis Platform (CODAP), and materials for teaching Data Science with Python. Teachers can select a sequence of lessons using their preferred tool or mix and match lessons from the three sequences to meet their goals and their students' needs. These resources are among CodeVA's most popular on the Go Open VA portal.

Total Impact: 149 individual resources published, with 882 views.

JROTC 4th Brigade

In partnership with the JROTC 4th Brigade of Northern Virginia, CodeVA created a curriculum for a summer JROTC Cadet Leadership Challenge, teaching students coding using Micro:bits. Additionally, professional learning was provided for JROTC instructors, with the potential for these instructors to earn certification as CS/cyber instructors.

Impact: 18 instructors and 521 students

Computer Science Faculty

In order to offer professional learning at scale, CodeVA uses an adjunct faculty model. Full-time teachers work part-time as faculty, offering their experience and expertise to their

peers. Adding a new subject to K-12 education offers a unique challenge to public schools, as most current educators lack the knowledge and skills in computer science. To ensure CodeVA's faculty has the knowledge and skills necessary to implement high-quality professional learning sessions, all faculty members complete an intensive apprenticeship and engage in ongoing training to ensure their knowledge is current. This necessitates significant CodeVA investment. To meet the state mandate, every teacher from kindergarten through eighth grade needs professional learning, support, and resources. To meet industry needs and higher education expectations, there is high demand for high school teachers with the endorsement, knowledge, and skill set to teach specialized computer science courses.

The adjunct nature of faculty allows us to expand and contract staffing to meet seasonal professional development needs and to better control for changes in levels of corporate and foundation funding support that, along with state support, undergird these programs. This model also ensures that school divisions where faculty work full-time have highly skilled people in-house who can help with local professional learning, curriculum work, and system-level planning without the risk and expense of external contractors. This team also supports their local divisions by running professional learning sessions in their home divisions and schools, creating sustainable, local computer science infrastructure.

With shifts in how teachers and school leaders seek access to professional development resources, CodeVA is in the process of realigning its programs to meet these new demands. One of those demands is for more PD opportunities to be delivered during school. In 2023 - 2024, CodeVA anticipates the need to hire more staff to serve as daytime facilitators to meet the needs for daytime professional learning during the school day (based on data from the needs assessment). Increasing staff and faculty will serve to meet a growing need for statewide professional learning as the Virginia Department of Education supports and augment division efforts to meet the state computer science SOL mandate.

Total Impact: 35 active faculty members across Virginia

Partnerships

Virtual Virginia

CodeVA has a longstanding partnership with Virtual Virginia, the state's online provider of virtual courses. CodeVA has developed several courses in partnership with Virtual Virginia, both for teacher professional learning and for students. In particular, the student courses allow students access to high-quality computer science courses in middle and high schools that currently cannot offer computer science electives.

> *"The modules were chunked in a way that was easy to sit down for a session and return later. I also think all of the resources you shared (Alignment and integration guides, GoOpen VA sample lessons) will be extremely valuable to me as I continue to work with my teams of teachers." - Educator Programs Participant*

For educators, CodeVA has developed three unique professional learning courses available at any time. As an example, the *What Is Computer Science?* course offers a self-paced introduction to the fundamentals of the computer science field and important concepts covered in the Virginia Standards of Learning (SOLs) for computer science. Educators also learn how to teach computational thinking skills in their classrooms and how computer science SOLs can be integrated into core academic content. This program allows educators to fit computer science learning into their own schedules

Additionally, two core CodeVA professional learning courses, Launching Computer Science and Computer Science Integration, have been adapted to be accessible via the Virtual Virginia platform.

Impact: 348 educators and 295 students

Virtual Virginia Educator Enrollment	2022-23
“What is CS?”	276
Launching Computer Science	49
Computer Science Integration	23
Total	**348**

Virtual Virginia Student Enrollment	2022-23
Computer Science Principles	74
Computer Science Foundations	105
AP Computer Science Principles	116
Total	**295**

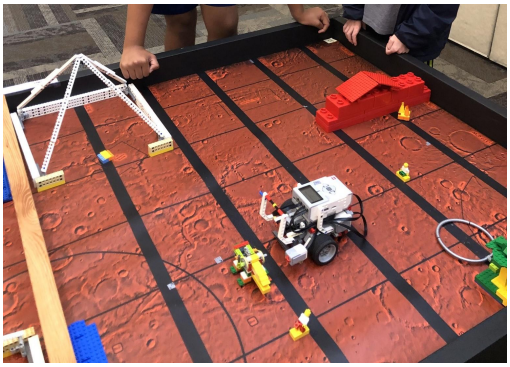
Hubs

To serve the varying needs in each region of Virginia, CodeVA has developed a network of hubs across the state. These partnerships allow CodeVA to engage with local educators and families, host community-building events and also generate a flow of information about local needs back to the organization. These partnerships are essential to serving the varying needs of Virginia’s schools. The current Hub Partners include the Institute for Advanced Learning and Research in Danville, Chesterfield Public Schools, Harrisonburg Public Schools, Loudoun Public Schools, Roanoke Higher Education Center, Stafford Public Schools, Chesapeake Public Schools/Old Dominion University, and the Southwest Higher Education Center in Abingdon.

Case Study - SW VA Higher Education Center

As CodeVA's original hub, the SW VA Higher Education Center serves as a model for the kind of dynamic and innovative programming these partnerships bring to all corners of Virginia. First established as a partnership through funding from the Virginia Tobacco Commission, which vastly expanded equitable access to Virginia's CS programs in Southwest and Southern Virginia, the SW Higher Education Center is an active collaborator and proof of concept for CodeVA's effort to be a catalyst for regional ownership of a CS K-12 initiative. In the summer of 2023 the center ran a STEM camp for kids that centered computer science and programming as a central element for these students.

A report from this camp is to the right. .



Lego Robot Tournament

The SW VA Higher Education Center in Abingdon hosted a STEM Summer Day Camp where 29 rising 4th-8th graders participated in exciting Egypt-themed lessons in STEM. Sonia Vanhook, CodeVA's local staff member, and Ally Blevins taught the students to write code using Code & Go, Cubetto, Mindstorms, Scratch, Spike, and Sphero. Kelli Peck showed the students how to fly a drone and use the camera to find a hidden treasure inside a dimly-lit room decorated as the inside of a pyramid. The highlight of the week was the LEGO Tournament run by Bill and Susan Duggings from Blacksburg, VA, where students programmed their robot to complete as many missions as possible within a 2-minute time frame.

Research - Building Computer Science Knowledge

CodeVA engages in research to expand knowledge of computer science education in both formal and informal settings and explore how new resources and methods might be incorporated into children and educator programs at CodeVA. The core focus of research at CodeVA is translating research into action.

The research of computer science education is still in its infancy. As educators and out-of-school time providers work to add this core subject to their programs, the body of knowledge remains small. CodeVA currently is a recipient of or participant in several national research grants. These include:

- **Computer Science for Social Studies** - CodeVA is collaborating with TERC in Cambridge, MA, and the University of South Florida to explore the integration of computer science into middle school social studies and history classes in rural districts. Funded by the National Science Foundation (NSF) (#2010256).
- **CS FAB** - In partnership with the University of Virginia, Virginia Commonwealth University, Petersburg City Public Schools, and Chesterfield County Public Schools, CodeVA is the awardee in the development of a toolkit for grades 3-5 educators to help integrate both computer science and culturally relevant teaching across content areas. Funded by the NSF (#2031258).
- **CS for CTE: Endorsement, Expertise, Empowerment** - In partnership with James Madison University, TERC and co-Principal Investigator Ms. Shelita Hodges, an experienced computer science instructor at Richmond Public Schools, CodeVA is the awardee in the development of a program to lead teachers to gain computer science (CS) endorsement, teach more advanced skills and concepts, and experience gains in self-efficacy and identity as a CS teacher. The target population is teachers who currently teach introductory-level CS in schools with large populations of underserved students (low-income, rural, and students of color). Funded by the NSF (#2219770).

- **Advancing Rural Computer Science** (ARCS; Old Dominion University) and **Maximizing Education Through Regular Immersion in Computer Science** (METRICS: Winchester Public Schools) partner with CodeVA to deliver professional development as integral parts of their research projects. Funded by the US Department of Education.
- **Everyday AI** - A partnership with the Massachusetts Institute of Technology (MIT), CodeVA is supporting the investigation of artificial intelligence instruction integration in Richmond Public Schools middle school science classrooms and out-of-school programs. Funded by the NSF (#2048746)
- **VTEC CTE** - The federally funded implementation project encompasses developing a CTE Summer Academy through CodeVA's Eureka Workshop out-of-school-time program for Indigenous Virginia teens to learn about CTE in an arts-integrated manner. Eureka is working to offer Critter Code at tribal community centers, as well as developing a teen counselor program with the goal of creating paid roles for VA teens. Educator Engagement is developing toolkits for participating school divisions to identify career opportunities in STEM for tribal communities and adapting VA native history lesson plans from VTEC to integrate CS and expand lessons into units.
- **Professional Learning by Choice Community** (CHOICE), is a federally funded research grant awarded to Virginia Ed Strategies to provide enhanced professional development opportunities and PLCs for STEM+C teachers primarily from rural divisions within Virginia. CodeVA provides expertise and consulting on how to implement computer science professional development. Funded by the US Department of Education.

Participant Feedback

2022 - 2023 Participant Feedback on Professional Learning Content

"I was extremely impressed with the quality of instruction and the opportunities for connecting with fellow educators!"

"I teach SPED K-5th and I will use CS on day 1 when the students come back to class."

"I loved the course! The instructors were very knowledgeable."

"I think this class will really help me write the lessons for the Kindergarten CS curriculum. A well-taught class, thank you!"

"Thank you so much for this presentation, this is a great workaround for FCPS, and also a great way for us to mirror our FCPS learning model, curriculum, POG, SEL, and media balance content. It's like code.org meets scratch, but better!"

"Great class! It encouraged me to explore CS First and gather lots of ideas for my students."

"This was a wonderful experience. I learned a lot. I can't wait to use what I learned with my students. Thank you so much!"

"This was a really informative session!! I am a certified data analyst/tech support specialist, and the resources provided during the session were really interesting and informative."

"I was very pleased with this course. I thought it was very well designed, and the Workbook that accompanied the learning was very helpful for my thinking. The amount of work was very reasonable for the time given. I was on spring break when the course opened and was able to complete the requirements without any trouble. The modules were chunked in a way that was easy to sit down for a session and return later. I also think all of the resources you shared (Alignment and integration guides, GoOpen VA sample lessons) will be extremely valuable to me as I continue to work with my teams of teachers."