

TAKING BUSINESS TO SCHOOL:

VANCOUVER PUBLIC SCHOOLS AND TECHSMART



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Partnership Catalyst

TechSmart — a company dedicated to helping young people develop the skills they need to enter the growing field of computer science — has a unique model for developing computer science skills: the company builds educators' capacity to effectively teach coding to K-12 students. TechSmart has developed a robust computer science education curriculum that enables students to learn the coding and computer science skills and experience they need to enter software development and other tech industry jobs right out of high school.

Vancouver Public Schools (VPS) in Washington state was one of TechSmart's early partners in adopting the coding and computer science curriculum. TechSmart trained two VPS teachers on the Python programming language and how to teach it in the classroom, and now two Python coding courses are part of the district's computer science CTE pathway.

In fall 2020, TechSmart launched an internship program to provide another opportunity for high school students to build tech industry skills and experience. "Being a software developer doesn't necessarily require a college degree," explained Chelsea Byers, TechSmart's director of teacher success. "TechSmart is focused on creating alternative pathways into the tech industry," she continued. TechSmart designed its internship program to help students develop foundational skills, strengthen their coding skills, and create a strong portfolio of completed projects — all of which will set them up for success in the workplace.

When TechSmart launched its internship program, the company reached out to its strong education system partners, including VPS, to invite interested students to apply. TechSmart brings on interns as a cohort; to date, TechSmart has completed four cohorts of the internship program and is in the fifth cohort right now; more than 30 high school students have participated in internships at TechSmart, including six students from VPS.



Program Overview

Interns at TechSmart join the Teacher Support team, which provides operational and communication support for the TechSmart coding training and curriculum. Interns are fully incorporated into their team and the company overall; they work on tasks that are central to the company's operations, and

Creating Strong Business Partnerships

For more information on creating strong business partnerships, see the "Business and Community Partnerships" element of ACTE's *Quality CTE Program of Study Framework™* at <https://www.acteonline.org/professional-development/high-quality-cte-tools/>.



full-time staff work in collaboration with the interns as team members. Examples of recent tasks completed by interns include developing short videos and posters to help teachers recruit students for coding classes, providing quality assurance (QA) on curriculum documents, and developing solution code so teachers have examples of multiple solutions to the same coding problem. These tasks are typical work assignments for junior software developers, which allows interns to gain early experience doing entry-level coding work.

Each TechSmart internship cohort lasts for 12 weeks, and interns work five to ten hours per week. The value of the cohort model is that the interns have a built-in peer group; they can talk to each other about what they're learning and any challenges they're facing. The intern cohort meets weekly to discuss topics that are relevant to tasks the interns are working on, or foundational skills like time management. In addition, each intern meets weekly with their mentor to discuss the intern's workload and tasks, receive feedback on completed work, and talk about career development.

In addition to building their skills and experience in coding, TechSmart interns develop critical foundational and professional skills that will prepare them to be successful in future tech industry jobs. They learn how to use standard office communication and file sharing systems, along with task and project management software that is commonly used in the tech industry. Interns learn how to participate effectively in team and check-in meetings, including developing agendas for these meetings to ensure the time is used efficiently. In addition, interns become comfortable taking initiative and managing their own work.

TechSmart is a fully remote company; all of its full-time employees work remotely, and interns work remotely as well. It can be challenging at first for interns to ask questions and reach out for help in a remote work environment, but their mentors and the internship coordinator help interns learn when and how to ask for help to ensure they can complete their tasks successfully. Interns build the critical skill of breaking down a project into manageable pieces; their mentors help students learn how to break down and manage their workflow, which is a critical skill for software developers. Finally, the TechSmart internship helps students build confidence in themselves and their abilities through successfully completing tasks that support the company's overall operations — and ultimately help other students learn about coding.

VPS has a robust structure for its internships and other work-based learning experiences. VPS provides work readiness

VOICES FROM THE FIELD

Tracey Scharmann is the career connected learning coordinator at Vancouver Public Schools. In this role, she oversees all career development activities for the district. Scharmann works with counselors and teachers at VPS high schools to ensure students have access to high-quality career exploration and development activities. She also works with business partners to develop internships and other opportunities to strengthen partnerships between business and education.

VPS centralized its career connected learning activities by creating one position at the district level to coordinate all work-based learning activities across its schools. This centralized structure reduces the burden on counselors at each school and promotes equity by ensuring that all students in the district have access to the same career development opportunities. In addition, the centralized position makes it easier for business partners since they have a single point of contact at VPS rather than with different contacts at each school. Scharmann manages the district's career exploration activities using Xello's career readiness platform. She also uses the platform to promote career development events and internships. Students can search for internships and events in their career fields of interest and even apply for internships through the platform.

Scharmann is a passionate advocate for business-education partnerships that strengthen the connection between the classroom and the workplace. When Scharmann talks with local employers, she emphasizes that they can partner with CTE programs to create a pipeline of talent; many students want to enter the workforce right after high school, and CTE programs can prepare students for careers. Scharmann explains that internships in particular help students explore their career options and develop the skills and gain real-world experiences they need for the world of work. "Students find their passion when they're doing real-world work," says Scharmann. "When they meet with their mentor and learn how to break down the work to complete a project, that's where students gain all the knowledge they can't get in the classroom."

training, and students are required to complete 30 hours of this training before beginning an internship experience. Students are introduced to foundational workplace skills, including self-advocacy, receiving feedback, completing timesheets, interviewing skills, and more. The work readiness training sessions ensure that students have a basic understanding of workplace expectations and behaviors they will need to be familiar with on their very first day as an intern.

In addition to preparing students for their internships, VPS also requires its business partners to prepare ahead of time. Each business that hosts student interns completes a partnership agreement with VPS before the internship begins. The partnership agreement outlines roles, responsibilities, and expectations of the business for the internship program. For example, the partnership agreement states that business partners will provide

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Development Through CTE*,
which is addressing the skills gap challenge,
at <https://www.acteonline.org/partners/wfd-cte/>.



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supervision and training for student interns, complete two evaluations of student interns, and remain in communication with the VPS career connected learning coordinator regarding interns' progress and any challenges.

To support its business partners in creating successful internship experiences, VPS helps its partners learn how to work with high school students, including assigning relevant and appropriate tasks, providing feedback that helps interns learn and grow, and incorporating interns into their teams. VPS also requires companies hosting interns to develop a training plan that establishes three or four learning objectives for each intern. This training plan ensures that both the work site and the intern understand what the internship will focus on to ensure the experience is beneficial for both parties.

VPS computer science teachers recommend their students for the TechSmart internship. Ideal student candidates have critical thinking skills, a strong foundational knowledge of coding, and an interest in the tech industry. TechSmart is committed to developing an equitable pipeline of tech workers; the company emphasizes teaching coding to students who are underrepresented in tech industry jobs and prioritizes offering internships to students who have not previously participated in any tech industry internships, to help more students develop skills for the tech industry. Byers explains that the company works to recruit student interns who are interested in programming or the gaming industry but aren't sure about going to college, and who would benefit from work experience that will build confidence in their skills. An internship at TechSmart in combination with skills they have learned through a robust computer science pathway will set these students on a path to a strong career in the tech industry, says Byers.

TechSmart also provides robust professional development support for computer science teachers through training and teacher externships. TechSmart's teacher training helps teachers develop coding subject matter expertise, and it also helps teachers become comfortable with effectively teaching coding and seamlessly using technology in the classroom. TechSmart also offers teacher externships to help computer science teachers stay current with coding skills and competencies and learn how classroom content is applied in the workplace. One of VPS' computer science teachers participated in TechSmart's teacher externship program in summer 2021.

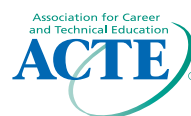
Elements of Program Success

- **Engage employer partners in curriculum and technology development:** CTE programs of study can partner with employers to review or develop curriculum and instructional technology, to ensure that both are aligned with current industry standards. This is particularly important in a field like information technology, in which programming languages and skills needed by workers evolve and change quickly.

- **Provide work-based learning opportunities for students:** Internships and other work-based learning experiences help students develop both foundational and technical skills they will need for future jobs and allow students to gain authentic work experiences that will set them up for success in the workplace. Work-based learning experiences are most beneficial for students when they are aligned with programs of study and career pathways.
- **Support teachers' extended learning through training and externships:** Industry can be a strong partner in providing professional development for CTE educators. Opportunities like teacher training and externships allow educators to stay up to date on current industry-standard knowledge and skills, so they can help students learn how classroom content is applied in the workplace.

Learn More

- Vancouver Public Schools: <https://vansd.org/>
- Vancouver Public Schools CTE: <https://vansd.org/cte/>
- TechSmart: <https://www.techsmart.codes/>



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