United Way of Southwest Virginia
Operation Tomorrow's Workforce

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The youth of Southwest Virginia have been uninformed of potential local career pathways. They are now vulnerable to dropping out of school, unemployment, or even underemployment, with a large sum of education debt and no direction.[1] Budget constraints have left the average school counselor with a 471:1 ratio of students to counselors, nearly twice the recommended rate set by the American Counseling Association.[2] Last year, United Way of Southwest Virginia was able to give high school juniors and seniors a sense of reaffirmation and trust in their school support systems.

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> **Source: American School Counselor Association (2017)**

During Ignite's first year, United Way of Southwest Virginia provided state of the art web-based software for self-exploration and career planning to more 29,790 6th–12th grade students in our region to heighten and build their career awareness. Using this software and curriculum, students were able to learn more about their own interests and strengths through comprehensive assessments and career matching.

Not only did this platform build students' knowledge, it also enhanced teachers' awareness of local employers by having education providers and employers actively step into one another's worlds. Through Ignite programming, 64 educators toured local employer worksites to build awareness and to aid teachers in understanding the skills needed by local employers. Teachers were able to see firsthand the needs of local employers-- a workforce that can think critically when confronted with real-world problems.

The Ignite program put forth a regional Careers Expo for Youth for its second year. The event saw over 4,000 seventh grade students learned first-hand from local employers about the jobs available right here at home. Not only do today's employers want to hire people competent in academic areas: today's employers also need to hire people who can think critically, communicate effectively and solve problems collaboratively.

United Way of Southwest Virginia partnered with the U.S. Department of Labor and provided guidance counselors and teachers with a curriculum called "Skills to Pay the Bills". Using this curriculum, middle and high school students were taught about soft skills like: communication

and teamwork, critical thinking and problem solving, attitude and professionalism and why they need these skills to succeed in the workplace.

This curriculum has also brought to light the importance of financial literacy and money management at a young age. United Way of Southwest Virginia formed a partnership with Virginia Tech's Cooperative Extension, where more 3,000 students last year received a real life financial simulation called, 'Reality Store'. During this activity, students learn the importance of earning a paycheck by making financial decisions about their budgets and lifestyles. The event teaches them the importance of personal accounting and financial responsibility.

All of these Ignite program components work together to prepare the youth of Southwest Virginia at an earlier age, affirm critical workplace skills, and effectively communicate career readiness with relevant activities all the way through graduation. United Way of Southwest Virginia is working continuously to empower tomorrow's workforce.

On challenges in high school

Over the next decade, more than 75% of jobs will require skills and credentials above and beyond a high school diploma.[3]

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> **Source: Manpower Group (2012)**

The Appalachian Regional Commission notes that educational attainment is arguably the most important ingredient to regional development. They also said, "Employers who require well-educated workers may simply choose to locate production activities in more attractive regions other than Appalachia."[4]

When it comes to students furthering their education in SWVA, many are unknowingly setting themselves up to stop after high school. The type of diploma a student chooses can affect students' future success in college and career training programs. The Advanced Studies Diploma is typically chosen by students who want to go to college. Plus, students who earn them are more likely to enroll in college, stay in college, and receive a degree.

Yet, in Southwest Virginia, students are far more likely to pursue a Standard Diploma than elsewhere in the state. Among our local schools, many students indicated plans to pursue college[5], yet many are choosing the Standard Diploma path. In one county alone, 67% of students said they were going on to college, even though 70% of students chose the Standard Diploma. Statewide, just 39% of students pursue the Standard Diploma.[6]

Through a cradle-to-career continuum: we will build a talent pipeline that prepares the next generation for the jobs of tomorrow, supplying businesses with skilled workers, building a robust competitive economy. The ultimate objective of United Way's work in Ignite is to increase the

number of youth who finish high school and go to work, join the military, or enroll in higher education. The Ignite program is expanding into the region's high schools while addressing three critical challenges that educator and industries face.

Challenge #1

In a recent report, Ball State University predicts that half of low-skilled U.S. jobs are at risk of being replaced by automation. Of these job losses, lower-wage and low-skilled workers are most at risk and the risks are even greater in rural communities.[7]

Earlier this year, United Way of Southwest Virginia learned that school systems have been selecting from a list of more than 600 credentials, and although more than 9,600 credentials were earned by students last year, they often did not align with the needs of local employers.

This information leads us to ask, did the employers and schools ever sit down together to discuss these credentials and which ones are most valuable to the employers? National reports show that across the country, only a third of employers report ever communicating with local schools.[8] This communication was proven to be effective by a recent partnership between Electro-Mechanical and a local high school.

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> **Source: McKinsey and Company (2013)**

In spring of 2017, Electro-Mechanical sat down with the superintendent of Bristol Virginia Public Schools to discuss a partnership at the high school level that would prepare students for a manufacturing career with the company. During this meeting, each realized that area manufacturers were seeking candidates with a completely different credential than the one being offered at Virginia High School.

Following that initial meeting the school made changes to the curriculum of the high school's manufacturing course, aligning the right credentials and training to help bridge the skills gap at Electro-Mechanical.

To help inform and guide this process, United Way of Southwest Virginia is currently conducting a credential study with all 38 high schools. This study will help align school's coursework, credentialing, and training based on local employer demand.

Challenge #2

STEM, an acronym that stands for Science, Technology, Engineering, and Math, are critical disciplines, that 15 of the 20 fastest-growing occupations, will require more of over the next 10 years.[9]

According to Emerson, today, two out of five Americans believe the STEM worker shortage is at a crisis level.[10] In manufacturing alone, the National Association of Manufacturing and Deloitte predict the U.S. will need to fill about 3.5 million jobs by 2025; yet as many as 2 million, more than half of those jobs, may go unfilled, due to difficulty finding people with the skills in demand.

> *"Two out of five Americans believe the STEM worker shortage is at a crisis level."*
> **Source: MarketWatch (2018)**

Like many schools across the Commonwealth, Norton City Schools realized the need to connect the classroom to the workplace. The school system utilizes 'project-based learning', a student-centered teaching, through active exploration of real-world challenges and problems.

At J.I. Burton High School, teacher Michael Brooke's eighth graders explored STEM through real-world projects. His students tracked snow plow routes and schedules in Utah using geographic information systems. They built and programmed robots to sense movement, and designed instrument packages that they sent into the atmosphere using high-altitude balloons. This November, students are scheduled to send a satellite to space for eight days through the ThinSat Program in partnership with Virginia Space.

Michael said, "They're simple projects, but when they accomplish something, we see the passion ignite. Even something simple like making a light blink on a robot is exciting to them because they did it – they are the ones that wrote the code to make it happen."

Another local example of project-based learning can be found in the same high school, but in the classroom of teacher Diane Kinser. In Diane's three years of teaching, she has completed dozens of deeper learning projects with students that equip them with the skills to problem-solve and think critically. Her science students solved a legitimate water drainage problem on the campus of Norton Elementary by researching and developing a plan to seal the greenhouse, level the platform, and concrete the entryway. Diane is challenging her students not just to memorize information but apply it to real life.

In Russell County, CGI, an IT firm with almost 400 employees, has been providing project-based learning opportunities to local schools for two years. Recently they installed a special version of the Minecraft video game on 25 credit-card-sized computers and took the devices into sixth grade

classrooms. Students were then able to write code by learning a programming language through a real-world example of what programming is.

Kirk Lortz, Director of Operations for CGI, said, "We want to pique their interest in the computer science industry at a young age, so they can potentially turn that interest into a career in ten years with CGI."

Across the country, studies show that students taught via project-based learning, retain content longer, perform better on tests, and have improved problem-solving and collaboration skills (skills that employers say their young employees desperately need).[11]

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> **Source: National Collaborative on Workforce and Disability (2017)**

In order to bring more STEM activities into classrooms, Ignite will provide schools with a regional Speakers Bureau, composed of local employers committed to sharing their expertise and passion for STEM. This Speakers Bureau will deploy project-based learning curriculum in classrooms across the region as a way to increase students' interest in STEM. Students will now learn first-hand from local role models in the STEM industry, making Science, Technology, Engineering, and Math topics more exciting, giving our teachers the additional support they need.[12]

Challenge #3

Work experiences are a critical component of preparing youth for transition to adulthood.

Studies show that youth unemployment costs the nation up to $25 billion every year, predominantly in lost tax revenue.[13] Fewer students are working summer jobs, and few programs and schools that serve our youth have the capacity to incorporate formal work-based learning, which limits the ability of young people to gain workplace experience.[14]

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> **Source: United Way Worldwide (2014)**

As recently as the turn of the 21st century, roughly half of U.S. teens could expect to spend at least part of their summer vacation lifeguarding, putting up hay, mowing yards or otherwise working. But the share of teens working summer jobs has tumbled by half since 2000.[15]

The Virginia Department of Education asked career and technical education (CTE) administrators to define the problems that hinder or prevent work-based learning placements in their divisions. The administrators said first, there are insufficient work-based learning workplace placement opportunities. Secondly, because of budgetary and staffing constraints teachers are often prevented from leaving the classroom to even connect with employers. Third, even if they did have time out of their classes, recruiting employers to provide placements is difficult.[16]

Outside of our institutional challenges, youth often find themselves trapped in a vicious cycle when it comes to work experience: employers won't hire them without experience but, youth can't get that experience unless employers hire them.[17]

In Giles County, Virginia, they developed a solution for this problem through the creation of a Summer Youth Work Program. Since its inception in 2013, Giles County Summer Youth Work Program has placed high school students as interns with state parks, supermarkets, IT departments, and more. The county's program is a collaboration between government, employers, non-profits, and school systems.

Jeff Dinger, Special Projects Manager for the county government, said, "It's incumbent upon us, especially rural America, to do everything we can to encourage our young people to be able to stay in our communities. But we also need to attract more businesses like the great ones we already have, so our young people have the opportunity to stay."

In the summer of 2014, Dallas McKinney, a senior at Narrows High School in Giles County, just so happened to find his polymer chemistry internship with NanoSonic. Dallas was the first high school intern that NanoSonic ever had. That summer Dallas spent his time wearing multiple hats within the company and really got a feel for what it was like to do fundamental research, applied research, and then take it to the next level for various applications.

Following that year, Dallas went off to college and each summer when Dallas returned home, he continued to intern for NanoSonic. Over the years as his responsibilities at NanoSonic grew, so did his knowledge. When he graduated from college (in only three years) with a degree in applied physics, NanoSonic hired him. Today, Dallas continues to work at NanoSonic as a lab technician and is currently studying for his Master's Degree at Virginia Tech.

The path for Dallas to have a career in polymer chemistry was shaped because of what he experienced through his internship. Studies show that students who participated in work-based learning, are more likely to attend college or go to work compared to their peers.[18] Work-based learning also helps students establish a work history and gain the "soft skills" they need for employers to hire them.

Across the nation, employers who have embraced internships, have received significant return on their investment, by earning back every dollar invested plus an additional $1.32 in benefits.[19]

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> **Source: Autodesk, Inc. (1997)**

United Way of Southwest Virginia is launching efforts to build upon existing school resources to develop an internship component of Ignite, connecting student's learning to on-the-job experience. These internships will be related to the students' area of interest and will allow them to gain work experience and begin to develop skills and competencies to be successful in the workplace.

By partnering with software provider Major Clarity, United Way of Southwest Virginia has been able to expand the current software utilized by schools, to now host, collect, and market internship opportunities from employers and connect capable students to these opportunities. During the first year's launch, we will establish twenty different internship sites and provide forty youth with internships. In our second year, we plan to double this to forty sites and place eighty interns.

Each of these strategies, build career awareness and hands on skill development, help today's youth to be more prepared for work. As the Annie E. Casey Foundation notes, "In the end, work itself is the strongest and most effective 'program.'"[20]

> *"In the end, work itself is the strongest and most effective program."*
> **Source: Annie E. Casey Foundation (2015)**

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