

I want to thank Chairwoman Virginia Foxx and Congressman Lou Barletta for they invitation to speak before the Committee on Education and the Workforce at the innovation forum.

My name is Rachel Strucko and I am the Director of the Lehigh Carbon Community College SHINE After school program for Carbon and Schuylkill Counties.

SHINE is a true community success story. School administrators, guidance counselors, school day teachers and SHINE teachers have worked together to create a STEM-rich community driven by classroom innovation, forward thinking, and future workforce opportunities. We have found that collaborating, sharing resources and shared professional development makes us stronger and better able to serve the students and families in our community.

**SHINE (Schools and Homes in Education)**, a nationally recognized after school model that is a result of a grass root initiative that began in 2004 in Carbon County. SHINE is a 21st Century Community Learning Center program partially funded through the Department of Education in Pennsylvania.

The SHINE after school Program has been a prevention strategy for Carbon, Schuylkill, and Luzerne Counties. SHINE addresses several chronic, regional issues – poor school performance, lower higher education attainment, crime, higher poverty, and workforce development issues (reduced number of skilled, trained, and educated workers). The strong social/emotional components of SHINE help reduce risk factors that lead to negative behaviors such as issues in academics, familial problems and neglect, peer influences, and idle time. These same factors are also important for delinquency and gang prevention. SHINE has been a catalyst for change by bridging the gap between formal and informal education. District Superintendents are actively working with the SHINE staff to equip formal educators with STEM learning principles by bridging OST STEM curriculum to the K-12 setting through joint professional development and training on emerging technology.

The SHINE after school model developed and administered by Lehigh Carbon Community College (LCCC), has provided academic support for over 5,500 students in eight school districts and one career and technical school spanning over 700 Square miles in Carbon and Schuylkill County. The SHINE program is a comprehensive 42 week after- school/ summer program including kindergarten home visits, 1st-4th grade STEM centers, 5th- 8th grade STEM Career Academy and high school mentoring program.

The SHINE program has created a unique academic support system that allows students to prepare for success at an early age. Each individual that participates in SHINE has an equal opportunity to excel, and is encouraged to do so. The characteristic that separates SHINE from other after-school programs is the unifying of schools and homes to achieve a holistic social and academic foundation.

**The success of the SHINE Afterschool Program lies in the “Whatever it takes,” philosophy adopted by SHINE instructors and administrators to help a student to achieve his/her potential.**

**Simultaneously SHINE in partnership with local schools has instituted early warning and prevention strategies that have increased educational attainment and decreased the likelihood of a student dropping out.**

The program prides itself on offering a network of academic and social services while contributing to the improvement of academic performance, student behavior and attendance and facilitating family involvement.

The SHINE project’s mission is to link schools and homes in education to build a strong social and academic foundation.

The goals of the SHINE Program are:

1. To improve academic performance
2. To improve student behavior and school day attendance
3. To increase knowledge of STEM (Science, Technology, Engineering & Mathematics)

4. To facilitate family involvement in student learning and improve family literacy

The Demographics of the SHINE K-5<sup>th</sup> grade from 2008-2018 include: 100% referred for academic support, 89% low income, 21% minorities, and 33% have IEP's. **Despite those odds**, the effectiveness of the SHINE program has been documented in a longitudinal study with over 12 years of data.

	Homework Completion (HC)	School Attendance	Classroom Behavior (CB)	Academic Performance (AP)
2007-08	82%	31%	59%	74%
2008-09	82%	43%	69%	83%
2009-10	86%	40%	63%	83%
2010-11	84%	45%	64%	80%
2011-12	79%	37%	57%	73%
2012-13	76%	45%	56%	76%
2013-14	80%	48%	63%	82%
2014-15	81%	40%	62%	81%
2015-16	77%	39%	54%	77%
<b>2016-2017</b>	<b>80%</b>	<b>71%</b>	<b>67%</b>	<b>79%</b>

100% of administrators surveyed in all participating districts Strongly indicated SHINE is “having a significant positive impact on students”, and is having a positive impact on student achievement”.

100% of parents surveyed indicated they were pleased with the SHINE program (and that has been the case for more than 10 years on annual surveys). Ninety-eight percent of students were promoted to the next highest grade level for the 2017-18 school year.

WWW.AttendanceWork.org has highlighted the SHINE program for its exemplary attendance policy. National consultant, Dr. Hedy Chang, published an article entitled, “Compendium of Success in After-School Programs”, highlighting the SHINE after-school program and its successful strategies to improve school day attendance. SHINE feels that part of its success with good attendance is due to the highly motivating nature of the after-school program. The program design has become a motivational tool of its own.

Cross-sector partnerships have created a seamless pathway from pre-school to college promoting school readiness, STEM education, college ready students, - the foundation for a successful workforce. The Carbon/ Schuylkill SHINE program has been recognized for its work in STEM learning and the development of 21st Century work skills by numerous state and national publications. Most recently in STEM Ready America, a compendium of studies, reports and commentaries, SHINE was highlighted in “Career and College Exploration in STEM,” authored by Betsey Brand the Executive Director of the American Youth Policy Forum and Jessica Kannam, Policy Research Assistant. The article highlighted three exemplary high quality STEM afterschool programs in the country including the Lehigh Carbon Community College Carbon/Schuylkill SHINE program, Project Exploration in Chicago, Illinois and Evolutions a program at the Yale Peabody Museum in New Haven, Connecticut.

The foundation of the SHINE program is based on research - based practices and a strong focus on STEM learning. An instructional plan is developed for reading/math readiness skills, which includes regular communication with the classroom teacher. The program utilizes innovative teaching strategies that focus on student strengths. SHINE has been featured in a national research paper as one of 15 programs in the nation developing a STEAM Ecosystem, “HOW CROSS-SECTOR COLLABORATIONS ARE ADVANCING STEAM LEARNING”, February 2014. SHINE’s comprehensive 42-week after-school and summer program includes kindergarten home visits (The Little Scientist) which includes a mechanism for students in PreK Counts and Head Start to seamlessly enroll in SHINE Kdg. home visiting program. In the 2016-2017 school year SHINE Carbon/Schuylkill Home visitors made 1,814 visits.

Students seamlessly matriculate into the 1<sup>st</sup>-4<sup>th</sup> grade STEM centers, 5<sup>th</sup> - 8<sup>th</sup> grade STEM Career Academy and the high school mentoring tutoring program. The curriculum/instruction is inquiry based and has a real world connection and high priority occupations in Pennsylvania. Students in elementary STEM centers take part in a 42- week STEM curriculum based on high-priority occupations. The curriculum places an emphasis on developing critical thinking and problem solving skills, global awareness, and effective communication. Utilizing physics, math, engineering skills, and art, students construct a bridge in small groups. Students become the banker, engineer, construction worker, and site manager and work

cooperatively to build the bridge. Students build a solar house and wind turbines with the assistance from a representative from the Green Energy Partnership. Students experience project based activities through a new 3 D printing technology curriculum. The curriculum was developed by SHINE teachers and funded by Dept. of Community and Economic Development. Students worked with a local contractor/electrician to construct a dollhouse. Using Tinkercad, students designed and used a 3 D printer to print dollhouse furniture, attached solar panels, and electrified the dollhouse. The learning experience took student "through the process of designing, inventing and fabricating, as well as the skills used in industrial design, and engineering. Students experience how designers, architects and inventors find solutions. The results have included: 3rd-5th grade STEM Survey 2014-2018 92% strongly agree/agree that math/science will help them be more successful, 72% strongly agree that math is something they get excited about (Harvard Pear Math Survey), 67% said they had more friends now (Harvard Pear Science.) Middle School students: 95% strongly agree or agree that getting good grades is important to them (Harvard Pear Science), 100% strongly agree/agree that graduating from high school is important (Harvard Pear Science), 70% strongly agree/agree that science is an important subject because they will need it later for what they want to study. 90.77% STEM of the parents said their children improved in self-confidence. 100% of the OST teachers who were also classroom teachers said they had a better understanding of STEM and 100% said they would increase STEM activities in their classroom due to their experiences in SHINE.

**“I think the SHINE Program should always be there. I have five grandkids; all attended the program and continued through the school year with good academic grades, good behavior and they are very respectful. My oldest at this time is a senior and has been accepted into Penn State. The SHINE program also provided meals for my children”. Grandmother from the Shenandoah Elementary Program.**

**The middle school Career Academy** program located at the career and technical schools builds on the STEM skills taught in the elementary program. The middle school curricula include five (6) week hands-on career projects. Academic teachers team with technical teachers, many from business and industry sectors, to work in technical/science labs. Teachers utilize an inquiry based learning approach. **“When I**

**was in fourth grade (at Penn-Kidder Elementary in Jim Thorpe), I was introduced to the wonders of the Schools in Home and Education program or SHINE,” he said Thursday at the annual Lights on Celebration at Jim Thorpe Area High School. “When I heard they were building hovercrafts at CCTI, my jaw dropped to the floor. I needed to be enrolled.” Trevor Keefer 12<sup>th</sup> grader at the Jim Thorpe High School, President of Senior Class 4.0 GPA. Trevor plans to attend the University of Pittsburgh and major in chemical engineering.**

The projects reinforce academic skills and demonstrate a real-world application to why reading, math, and science play a very important role in the student’s future. Teachers have observed the level of confidence increase as students work to complete projects. Through the engineering process students worked with engineers from Kovatch, a global leader in manufacturer of fire trucks to build two slingshot race cars. SHINE collaborated with UGI Gas Company to transform an engine to run on natural gas as well as biodiesel. **Young women in the program are a priority and most show a strong interest in the program projects. The long-term result has been that 40% of the 9th grade class in 2017 at the Carbon Career and Technical School were SHINE students. Students enrolled in the Career Academy improved in academics, attendance, behavior, and had a 98% promotion rate.** The Career Academy has been a flagship program for SHINE. “Just as Career and Technical Education (CTE) can be an effective pathway for STEM education, efforts to bolster STEM education across the nation can advance certain CTE programs and goals. Efforts to support STEM and CTE are mutually reinforcing, and there are also advances driven by the STEM reform movement that can help advance CTE.” CTE Is Your STEM Strategy NASDCTEc [www.careertech.org](http://www.careertech.org) December 2013. With 50% of the future STEM careers, needing career and technical skills the SHINE Career Academy has effectively created a STEM career path through its partnership with the Carbon Career and Technical School.

**“Quality after-school programs make a difference not only in a child’s life in their academic excellence, but it also makes a difference in the private sector partners like Highwood USA and AT&T,” he said. “It (STEM) is really about pushing students to the full limit of their academic potential. We need to drive women, boys and girls into STEM programs.” Senator John Yudichak**

