



Public Schools of North Carolina  
State Board of Education  
Department of Public Instruction

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# Report to the North Carolina General Assembly

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Career and Technical Education  
Program Expansion Grant Program

*§115C-64.15*

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**Date Due: April 30, 2019**

Report # 76

DPI Chronological Schedule, 2018-2019

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SECTION 7.23F.(a) NC Education and Workforce Innovation Commission. The Commission shall publish a report on the Education and Workforce Innovation Program and the CTE Grade Expansion Program on or before April 30 of each year. The report shall be submitted to JLEOC, SBE, the State Board of Community Colleges, and UNC BOG. Report shall include at least all the following information:

- (1) An accounting of how funds and personnel resources were utilized for each program and the impact on student achievement, retention, and employability.
- (2) Recommended statutory and policy changes.
- (3) Recommendations for improvement of each program.
- (4) For the CTE Grade Expansion Program, recommendations on increasing availability of grants after the first two years of the program to include additional LEAs or providing additional grants to prior recipients

The Superintendent of Public Instruction shall provide a report to the Commission by October 15 of each year based on the information reported to the Local Planning Systems Regional Services staff under this subsection, including how the grant recipients compare to CTE programs statewide and whether the programs are aligned with the Master Plan for Career and Technical Education adopted by the State Board.

(Note: Local reports were due to DPI CTE by August 1)

## **Background**

The North Carolina Education and Workforce Innovation Program was established in the 2013 Legislative Session to support local education agencies undertaking innovative projects that would directly result in more students graduating college and career ready. The goals of the Education and Workforce Innovation Program include:

- Align public schools with business and industry and colleges/universities;
- Provide greater choice for parents/guardians among high-quality public education options;
- Enhance teacher and principal effectiveness;
- Ensure all students possess job-ready skills; and
- Leverage technology to accelerate student and teacher learning.

The Education and Workforce Innovation Program established by statute is a \$2 million annual fund to support schools, districts, and regions undertaking work in service of the goals listed above. Primary measurable outcomes of the program will include:

- Evidence of industry valued skills among students;
- Decreased time-to-degree;
- Increased rate at which students gain academic college credit and/or workforce credentials;
- Evidence of explicit partnerships with business and industry;
- Positive placement of every student upon graduation in continuing education or employment; and
- Evidence of alignment across K-12 and colleges and universities.

The Education and Workforce Innovation Program's competitive grant fund is administered by the Education and Workforce Innovation Commission (hereafter, "the Commission") and housed administratively in the Department of Public Instruction. This work was transferred to the Department of Public Instruction in July 2017. Members appointed to the Commission include a variety of state leaders and appointments from the Governor, House of Representative or Senate. The current Commission members are included:

<b>Education and Workforce Innovation Commission</b>		
Tony Copeland, Secretary NC Department of Commerce	Eric Davis, Chairman, NC State Board of Education	Peter Hans, President NC Community College System
Mark Johnson, State Superintendent, NC Department of Public Instruction	Margaret Spellings, President, University of North Carolina System	
<b>Governor Appointees</b>	<b>House of Representatives Appointees:</b>	<b>Senate Appointees:</b>
VACANT	Judy Irwin, Vice President, Human Resources, Golden Corral	Satish Garimella, Council Member, Town of Morrisville
Marshall Cherry, Roanoke Electric Corporation	Craig Hagood, President, House- Autry Mills	Steve Griffin, President, Insurance People
Ed Weems, Venture Management Inc Governor	Tony Fogleman, CTE Director, Cleveland County Schools	Michael Martini, HR Manager, Ball Corporation

**Reporting Requirements:**

- (1) **Accounting of Funds, Personnel Resources and accounting of how funds and personnel and their impact on student achievement, retention, and employability.**

In year one of the grant period, the Education and Workforce Innovation Commission awarded grants to eleven schools, districts, and regions representing the diverse constituencies of North Carolina. Grant awards included:

<b>LEA</b>	<b>Region</b>	<b>Allocation</b>
Beaufort County Schools	1	\$800,000
Buncombe County Schools	8	\$800,000
Charlotte-Mecklenburg Schools	6	\$800,000
Chatham, Harnett, and Lee County Schools	3	\$800,000
Davidson County, Lexington City, and Thomasville City Schools – Yadkin Valley Regional Career Academy	5	\$350,000
Duplin County Schools	2	\$800,000
Durham Public Schools	3	\$800,000
Granville, Franklin, Vance, and Warren Counties	3	\$800,000
Rutherford County Schools	8	\$800,000
Surry County Schools	5	\$800,000
Winston-Salem/Forsyth County Schools Kennedy High School	5	\$350,000
*Wilson County Schools	3	\$350,000

\*In year three of the grant period, an additional grant was awarded by the Commission.

The vision set forth by the North Carolina General Assembly continues to strengthen and develop among the grantees. Necessary legislative changes have allowed grantees additional flexibility around how to best allocate matching funds to

support grant work and have provided additional support to ensure the long-term success and sustainability of their efforts. Reports from grantees demonstrates that the work undertaken is aligned with the original intention of the Program. This work should be replicated in schools, districts, and regions throughout North Carolina. As the Education and Workforce Innovation Program work continues, Commissioners hope to further engage state leaders in grantees' work to promote college and career readiness and to spread the learning that has resulted from this work to citizens and leaders alike. The scope of work is below for each LEA below:

Beaufort County Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

In Beaufort County, out of this implementation an art teacher became certified to teach the Adobe classes so that students in his traditional video class can begin earning the Adobe Video Certification. This teacher also utilized coding with Spheros to create a piece of art with his students which was displayed at the E2E STEMEAST conference in New Bern, NC in March 2018. The link to the video of making the artwork is

<https://drive.google.com/drive/folders/1eGpl7uV38y1u89QHDP7PCMgqvPcfvse5>

This was the result of experimentation by the students on previous occasions to understand when to add paint, how to keep the Spheros contained on the surface, and other aspects of creating an art piece with technology. It encompassed the entire design process from start to finish and was the culminating project.

In addition, an art class designed a food pantry for a local church and after working with the church on adjustments to the design, worked with the carpentry classes to utilize the CNC machine to cut out the pieces to the free food pantry for the community.

Also, in June an additional art teacher went to a training with the carpentry/drafting teacher and they plan to complete projects together for things such as set design by crossing curricula in all three classes to produce sets for the spring play and possibly the prom in spring 2019 for Washington High School.

The crossover of curricula are providing students the opportunity to work as they might within the workplace using skills such as the design process, collaboration, coding, problem solving, and creating a finished piece of work as a team. In addition, professional development is ongoing for CTE staff, counseling staff, and school staff in order to integrate and seamlessly navigate pathways with all students in Beaufort County while exposing all students to higher education offerings while they are in high school as well.

Buncombe County Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	\$160,000	160,000	160,000	160,000	160,000

This year, all of our elementary, primary, and intermediate schools came on board with the STEM labs. We trained the new lab managers and continued training with the pilot school managers.

In addition, the Elementary STEM Coach worked with the classroom teachers at various schools through workshops to introduce STEM and the Engineering Design Process to teachers. She also started a presentation on what makes a good STEM lesson and how to incorporate STEM in all curricular areas with a WRESA conference and the district BEST STEAM conference.

Four teachers were taken to the National NSTA Science Conference. These teachers were required to attend several STEM sessions in addition to the sessions of their choice. Once back at school, they were required to present to the grade levels and entire staff about new ideas and things they had learned.

Charlotte Mecklenburg Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

In Charlotte-Mecklenburg, the original high-level goals are:

- to strengthen and increase the effectiveness of two existing career academy programs (Vance Academy of Engineering and Phillip O'Berry Academy of Information Technology);

- to expand the number of STEM career academies in Information Technology (Olympic Renaissance) and Health Sciences (Hawthorne); and,
- to build a partnership model for pipeline development within high-demand business sectors.

Since receiving the grant funds, the following has been accomplished:

- Constructed Learning Designs provided instructional coaching training to Instructional Coordinators at the school level. This is to strengthen the end of course exam data.
- Vance Academy of Engineering, Berry Academy of Technology AOIT and Olympic Renaissance moved from a certified to Model level with National Academy Foundation
- Hawthorne Academy of Health Sciences moved from certified to the highest level Model Distinguished.
- West Charlotte AOIT had their first year and are now certified, which is the beginning level of certification.

End of course exams continues to be an area of struggle and focus at a district level. In a strategic move to build more instructional support, school support roles were redefined at the end of 2017-18 school year. Moving forward there will be an Instructional Facilitator (IF) at every high school, whose only responsibility is to support instruction. By moving the testing responsibilities to a different position, the IF will be able to provide more in depth instructional support

Program	2016.17 EOC Prof.	2017.18 EOC Prof. (Preliminary)	Certifications 2017.18	College & Career Promise 2017.18
Berry Academy of Technology AOIT	64.6% (Composite of IT courses)	73.9% (Composite of IT courses)	255	CTE: 23 courses 23 students Non CTE: 24 courses
Hawthorne Academy of Health Sciences	98.7%	42.9% (Increase in students in each course. Central Office is working to understand why the drop in proficiency.)	36 (first 8 CNA certifications earned in the district)	CTE: 6 courses 6 students Non-CTE: 18 courses 24 students
Olympic Renaissance	42.9% (Composite of IT courses)	41.7% (Composite of IT courses)	26	CTE: 8 courses 6 students Non-CTE: Data has now been collapsed.
Vance Academy of Engineering	63% (71)	8.5% (82)	0	CTE: 9 courses 10 students Non-CTE: 9 courses 14 students
West Charlotte AOIT	No courses	54.4% (543)	362	CTE: 9 courses 13 students Non-CTE: 8 courses 5 students

- Certifications for most schools is an area of celebration of growth. Some academies are limited in the certifications offered in that pathway or students have not yet matriculated to a level where the capstone certification will be offered.
- Internships continue to be a struggle to attain due to age restrictions of 18 or in the case of the health industry, HIPPA and not wanting students to interface with patients

Chatham, Lee, and Harnett Counties	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

The main goal of the project was to achieve a dramatic increase in participation in the Career and College Promise (dual enrollment) program in Chatham, Harnett and Lee Counties, while simultaneously building faculty, administration, and curriculum capacity for guiding students through a full range of educational and career pathways. The effectiveness of the program to achieve this goal was to be measured by the following indicators:

- Dual enrollment rates will rise from 5% to at least 15% for the tri-county area by fall 2016. This translates to at least 500 students more students enrolled in Career and College Promise.
- No fewer than 50 students per year will graduate high school with earned CTE certificates or diplomas by spring 2017.
- Beginning with the graduating class of 2017, students who continue on to pursue 2-year degrees will complete them within three years at a rate of no less than 40% and students who pursue four-year degrees will complete them at a rate of no less than 70%.

Secondary goals included reaching all of the tri-county area's 11,000+ high school students with outreach and advising services and providing sustained professional development programs to connect schools and classrooms with local business and industry.

Since the inception of the grant, the following activities have been accomplished in Chatham, Lee & Harnett Counties:

- All nine advisors were hired and placed in their respective schools by August 18, 2014 and began providing outreach and advising services soon after.
- Advisors are participating in activities that educate students, faculty, and administrators on opportunities in the local workforce and the skills and knowledge that they require. These activities include individual advising meetings with students, classroom lectures, school-wide activities, faculty/staff meetings, parent meetings, and Career and College Promise (CCP) information sessions to promote a culture of dual enrollment.
- Advisors have conducted site visits of local businesses and industries, as well as the CCCC campuses, for students and teachers. Faculty participated in National Manufacturing Day activities and scheduled visits to industries/businesses unique to each county in the service area.
- The Central Carolina Works (CCW) program has used monthly newsletters to provide outreach to faculty, staff, students, business and community partners, and CCCC faculty and staff, starting in the fall of 2014.
- Advisors have participated in professional development opportunities including the College Foundation of North Carolina Training and participating in the North Carolina Community College Conference. Also, Central Carolina Works presented a one-day summer symposium: Bridging Education and Careers for service area high school faculty. Approximately thirty (30) math and science teachers from the service area connected with local business and industry leaders to facilitate incorporating real world applications into their curriculum. The symposium included a panel of business and industry leaders, industry tours, and CCCC vocational/technical program tours.
- To date Career and Technical Pathways in the following areas have been developed: Accounting, Associates Degree Nursing, Automotive Restoration Technology, Business Administration, Barbering, Broadcast and Production Technology, Criminal Justice Technology, Computer-Integrated Machining Technology, Computer-Aided Drafting Technology, Cosmetology, Culinary Arts Technology, Dental Assisting, Early Childhood Education, Electronics Engineering Technology, Health and Fitness Science, Health Information Technology, Industrial Systems Technology, Infant/Toddler Care, Information Technology, Laser and Photonics Technology, Library Information Technology, Medical Assisting, Medical Office Administration, Motorcycle Mechanics, Nurse Aide, Veterinary Medical Technology, Manicuring/Nail Technology, Human Services Technology, Sustainable Agriculture, and Sustainability Technologies.
- Additionally, students can take the following college transfer pathways: Pre-Associate in Arts (College Transfer) , Pre-Associate in Engineering (College Transfer) ,Pre-Associate in Science (College Transfer)
- For this academic year, advisors have had contacted with more than 70% of the student population.

Duplin County Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

The original goals and expectations of the activity supported by the EWIF grant were to increase student achievement in multiple subject areas through the implementation of STEM teaching and learning in the elementary grades as well as increasing leadership capacity among school principals through quality leadership coaching from a reputable provider. We are focusing on STEM in the elementary grades to align instructional efforts in kindergarten through fifth grade with STEM programs that already exist in our middle and high schools so that students are more prepared for success as they continue their journey from education to workforce.

#### STEM Supports and Professional Development:

During the 2017-18 school year, Duplin County Schools continued to employ a District STEM Coordinator to oversee the implementation of the EWIF grant, provide professional development for teachers, and coordinate the implementation of STEM curriculum and resources in grades kindergarten through five. In addition to providing professional

development and managing the 8 elementary Missions Labs, the District STEM Coordinator provided individual coaching for teachers across the district by modeling STEM lessons, observing and providing feedback, and supplying instructional materials and resources for teachers.

As a result of continued supports in the district, teachers reported the following perceptions about STEM and implementation of STEM teaching based on a survey. (Numbers represent percentage of teachers that strongly agree or agree with each statement. Spring 2015 data represents survey baseline.)

- There is a clear definition of STEM in Duplin County Schools.
  - o Spring 2015 – 43%      Spring 2016 – 80%      Spring 2017 – 72%      Spring 2018 – 74%
- I can clearly articulate what STEM education means.
  - o Spring 2015 – 44%      Spring 2016 – 86%      Spring 2017 – 89%      Spring 2018 – 88%
- I can identify STEM instruction when I see it.
  - o Spring 2015 – 35%      Spring 2016 – 86%      Spring 2017 – 87%      Spring 2018 – 88%
- I implement STEM instruction in my classroom on a regular basis.
  - o Spring 2015– 29%      Spring 2016 – 57%      Spring 2017 – 56%      Spring 2018 – 59%

While we have made significant progress in STEM education in our district since the inception of the EWIF grant, growth in teacher perception and implementation of STEM instruction has remained stagnant over the past year. During the 2018- 19 school year, Duplin County Schools will launch a renewed focus on STEAMA (science, technology, engineering, arts, mathematics, and agriculture) to include resources and support for teachers to incorporate more integrated lessons into their classrooms. The hope is that this integration will expose more students to the traditional STEM areas while empowering teachers to implement relevant and meaningful instruction for their students. BY providing additional support and resources for teachers, we expect that these perceptions will increase in the 2018-19 school year as more teachers become comfortable with integrated STEAMA instruction.

#### Elementary STEM Missions Labs:

Four additional elementary STEM Missions Labs opened in 2017-18, giving the district a total of eight labs. During the 2017-18 school year, 83 teachers and 2,334 students in grades three through five were served in the labs.

The following data was obtained through a survey of teachers that facilitated instruction in the Missions Lab during the 2017-18 school year. Numbers in parenthesis indicate the results of the previous year's survey.

- 87% of teachers enjoyed their overall experience in the Missions Lab. (2016 - 100%)      (2017 – 97%)
- 96% of teachers reported feeling that the Missions Lab experience was beneficial to their students. (2016 - 100%)      (2017 – 97%)
- 87% of teachers reported feeling that the Missions Lab teaching experience had increased their confidence in teaching science. (2016 - 100%)      (2017 – 79%)
- 77% of teachers reported that the Missions Lab experience increased their awareness of STEM career options. (2016 - 83%)      (2017 – 62%)

This survey was administered to teachers in their first, second, and third years of implementing instruction in the STEM Missions Lab. The vast majority of teachers view the lab experience positively and feel that the experience has a positive impact on their students. The increase in STEM career awareness can most likely be attributed to the increased emphasis placed on career exploration through the lab. Students were provided with more opportunities to explore the career resources at their Missions stations this year than they have in the past through the implementation of career-based writing activities that were added to the curriculum content.

The decrease in teacher enjoyment of the Missions Lab experience can be attributed to multiple factors. Due to scheduling constraints, many teachers were limited in the amount of time they could spend in the STEM Missions Lab with their students. According to several teacher comments, they “felt rushed” and “felt like the class was out of control” during their lab time this year. Additionally, multiple teachers were hired after Missions Lab workshops took place in August 2017, so they were unable to receive full training on how to successfully facilitate instruction for students in the lab. This led several teachers to be frustrated with their experience in the lab until they could receive additional support from the District STEM Coordinator. Lastly, multiple teachers indicated dissatisfaction with the



number of weeks spent in the lab, stating that both they and their students felt “burned out” on the experience. Taking these factors into account, the District STEM Coordinator created a plan to better meet the needs of teachers for the 2018-19 school year. Additional professional development was offered in August 2018 and was differentiated based on the needs of both new and veteran teachers.

Scheduling meetings were held in each school with Missions Lab teachers and administration prior to the beginning of the 2018-19 school year to determine how to maximize the amount of time teachers can spend with students in the lab.

Teachers will also delay the start of their Missions Lab rotations until the third week of the school year in order to establish classroom management and collect data that will allow them to more strategically group their students for work in the lab.

The following data was obtained through a survey of students that received instruction in the Missions Lab during the 2017-18 school year. Numbers in parenthesis indicate the results of the previous year’s survey.

- 93% of students enjoyed their overall experience in the Missions Lab.  
(2016 – 94%) (2017 – 91%)
- 79% of students reported that learning in the Missions Lab made them feel like more of a scientist.  
(2016 – 83%) (2017 – 79%)
- 59% of students reported that they might like to pursue a STEM career.  
(2016 – 60%) (2017 – 62%)

This survey data indicates a slight decrease in positive perception among students. Students who participated in the program for a second year or third year indicated a lower degree of enjoyment in the lab. The District STEM Coordinator will work with teachers during the 2018-19 school year to share best practices for scheduling, classroom management, and instructional facilitation in the labs in an effort to increase student engagement in the program.

100% of principals surveyed indicated that the Missions Lab instructional experience was a positive experience for their students and teachers and that they were pleased with the content and materials provided in the labs.

#### Other Events and Impacts:

As a result of the increased emphasis on STEM teaching and learning as well as STEM supports from the District STEM Coordinator, eight schools held a “Family Science Night” during the 2017-18 school year to engage both students and parents in STEM activities. Seven schools held a similar program during the previous school year.

Participation in the district’s Science and Engineering Fair remained steady this year. Two of our district’s five high schools required all students to complete either a science or engineering project, leading to an increased diversity of both participating students and project topics. Two students were recognized for excellence at our regional fair and were able to present their work at the NC Science and Engineering Fair. One of these students earned top honors for his engineering project. With the rollout of our district’s STEAMA focus for the 2018-19 school year, teachers outside of the science classroom are becoming excited about project possibilities and will be encouraging their students to complete projects for participation in our district fair.

The District STEM Coordinator facilitated the sixth annual District Student STEM Symposium during the 2017-18 school year.

The district continued to implement Makerspaces in our middle and high schools this year. These Makerspaces represent a commitment to the continuation and expansion of STEM teaching and learning opportunities for students as they progress from elementary school through high school. The District STEM Coordinator served on a team that facilitated professional development for teachers in six schools during the 2017-18 school year and will continue to provide professional development and supports STEM Missions Labs continue to operate during the 2018-19 school year.

Davidson County, Lexington City, and Thomasville City Schools – Yadkin Valley Regional Career Academy	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$350,000	70,000	70,000	70,000	70,000	70,000

In 2012 Yadkin Valley Regional Career Academy opened as a bold, multi-district economic development initiative. The Academy's vision re-invents high school around students' career interests, a rigorous STEM curriculum integrated with relevant work and community experiences, and innovative uses of technology. The initial goal of the school was to become a regional training source for Project Based Learning. Other initial goals of the school were to develop an "open-source" web-based resource bank with tools and curriculum, to develop blended online resources, to establish a competency-based credit model for high school and college, adding resources to the school's website, and to support a statewide network of project-based learning schools in collaboration with NC New Schools.

Accomplished with the EWIF grant funding this past year were:

- The full implementation of our Project Based Learning (PBL) and STEM focused
- Funding for summer employment for PBL product development and STEM activities
- Intensive coaching support for teachers and school leaders through RTI coaching services
- Developing learning strategies that support school to career themes through PBL and STEM
- Providing (14 teachers and 1 counselor) extended summer employment to plan and prepare PBUSTEM units. As a result, 100% of the staff implemented PBL units during the 17-18 school year.
- Providing support and facilitation for the application process for the STEM School of Distinction which we received model status. We are currently 1 of 30 schools with STEM certification in the state of North Carolina.

Durham Public Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

At the outset of the EWIF effort and receipt of its critical "multi-year resource investment in 2014, partners representing the Durham Public Schools [DPS], Durham Technical Community College [DTCC], and the city's Office of Economic and Workforce Development [OEWD] - along with Durham's education, business and public sector leaders - had the opportunity to build upon work that had already begun in 2012 focused on a strategic effort to build an ambitious education-to-career system that could prepare all young people for successful adulthood and careers in the labor market by the time they reach 25. These partners had initially convened under the aegis of the "Made In Durham" initiative. The infusion of the EWIF investment allowed Durham's partners to ramp up the delicate and complicated task of building this new community system by engaging the employer community, creating multiple career pathways, providing professional development for partners and accelerating progress toward the goal of graduating every student both college and career ready.

The following activities have been accomplished as a result of receiving the grant funds for the 2017-18 academic year:

Provide low-income youth - with a particular priority given to boys and young men of color- the STEM skills, work-based learning and personal support needed to succeed in high growth technical occupations.

- At Merrick-Moore Elementary, with the new principal in his second year and all administrative and building leadership positions solidified, work concentrated on purchasing classroom instruction materials and providing teacher support during their use.
  - Solidified Kindergarten content by purchasing 3 grade level kits to supplement the Kindergarten units of study.
    - Per teachers - Students were engaged and the lessons were age appropriate.
  - Second thru Fifth grades - introduced a new text, specifically aligned to NC Essential Standards and Clarifying objectives. These print rich resources relate the science content when applicable to the state of North Carolina and allows for students to make pertinent connections. *For example: when talking about force and motion it references Charlotte Motor Speedway; when discussing life cycle it utilizes the cotton plant - one of NC's most important cash crops.*
    - Per teachers - they were able to utilize this resource and integrate within literacy and solidify lessons.
- Purchased 85 leveled readers on all levels allowing students to access the grade level content.
- Continued use of the pertinent Engineering Is Elementary unit in 5<sup>th</sup> grade - Cleaning of an Oil Spill.
  - Per Teachers - Student engagement in the activity and the discussions were rich in nature.
- Grade level specific resources:
  - Fourth- buzzers, tweezers, and motors allowed for each student to have hands on access to these resources during their science investigations.
  - Fifth- Two body systems purchased: Digestive and Muscular system

- Per Teachers: The student discussion peaked during their observations of these systems and the parts worked with other body systems.
- Fifth- Marble run was utilized to reinforce the 5<sup>th</sup> grade force and motion unit.
  - Per Teacher: This was a collaborative team building in-class project where students worked with their group to design marble tracks and then produce persuasive writing documents encouraging Carowinds amusement park to purchase their specific marble track. Students learned important collaboration skills as they began to make design choices related to their track.
- Fifth - Motion and Design CIBL kit
  - Per Teacher: Having students engaged in the process of building cars allowed me for references to their own experiences rather than videos or reading passages. This experiential approach allowed students to frequently return to this activity when discussing force and motion content.
- Neal Middle School, EWIF resources were combined with those generated through district SIG allocations to:
  - Extend the length of the Summer Camp from 2 weeks to 4 weeks (July 9 through August 2).
  - Expand the partnership with the East Durham Children's Initiative to increase parent outreach recruitment efforts.
  - Increase the number of participating students to 56 rising 6th grade students and 92 rising 7th/8th grade students (with virtually every student attending regularly).
  - Provide each participating student with free transportation utilizing neighborhood stops (local DPS match). Provide each participating student with free breakfast and lunch daily (local DPS match).
  - Incorporate STEM, Character Education, physical activity; Math & ELA classes for students on a daily basis.
  - Partner with the following community businesses and agencies to provide field trips &/or speakers to enhance student learning, usually on Thursdays:
    - Bull City Slam Team
    - The Engineering Place at NCSU
    - AMF Bowling
    - GoApe ropes course
    - Museum of Life & Science
    - Wheels Fun Park
    - Adventure Landing
    - Thrive, and entrepreneurial community group.
- At Southern, supported by an MOU and the presence of an EWIF-funded DTCC College Liaison- activity focused on 1) implementation of the 12 newly created career pathways that link SSES courses with those that exist at DTCC, 2) initiating work on the creation of newly authorized Continuing Education pathway opportunities at Durham Tech [particularly in the areas of automotive and construction], and 3) supporting student involvement in Career and College Promise (see below for details).
  - Create K-16 pathways from a) an elementary school through b) a STEM-focused middle school to c) Southern High School to d) a credential program at Durham Tech and e) a potential connecting path to NCCU.
    - As articulated above, 1) implementation began of the 12 career pathways formalized during '16 '17 between Southern with DTCC and 2) work began on the creation of newly authorized Continuing Education pathway opportunities.
  - Serve as a platform for the construction of Career and College Promise [CCP] curriculum pathways between Southern and Durham Tech to support the completion of college credits during high school.
    - In terms of student engagement in CCP during the fall 2017 term, a total of 13 students successfully completed (grade C or better) 15 courses (for 52 total credits), with book purchases for 3 of those students covered by a private sector-supplied grant to our local Workforce Board [OEWD]. DPS provided all transportation to and from DTCC as part of their match funding.
    - When the spring 2018 semester was completed, 7 returning students successfully completed [grade C or better] 10 courses (for 28 total credits), with OEWD supporting individual book purchases and DPS providing transportation.
  - Afford each student two mandatory internships or cooperative workplaces with a focus on experiential learning, initially in high school and subsequently in postsecondary education.
    - DPS graduates participated in DTCC Work Study employment during the two 17- 18 terms (final numbers were not available as of this report's submission).
  - Align and expand Southern's work-based learning experiences with the Summer YouthWork Internship

Program and Durham Tech's ConnectFunds (funds from Durham Sales and Use Tax funds).

- A total of 25 Southern students participated in OEWD's YouthWork paid internships in the public and private sector during the summer of 2018.
- A total of 428 DPS graduates [42 from SSES] attended DTCC during the two '17-'18 terms and received ConnectFund scholarships. This represents yet another increase over previous years.

Another feature of the 2017-18 year at Southern was the implementation of professional development opportunities provided by: 1) Dr. Chris Emdin of Columbia University (author of 2 recent books *For White Folks Who Teach in the Hood* and *Urban Science Education for the Hip-Hop Generation*) which focused on proven research-based methods of reaching urban learners; and 2) Adrian Mims of Simmons College in Boston (Director of the National Calculus Project) who is responsible for the successful replication and implementation of that effort project in school districts throughout the country.

Establish an employer-driven CTE Advisory Group with the capacity to assist with planning, delivering and assessing related Career and Technical Education [CTE] opportunities at the secondary and post-secondary levels.

- Work in this area has resulted in the formal creation of a new DPS CTE Advisory Committee that meets regularly and is serving in the above capacities. Le by its employer/business members, the group also includes representatives from city/county government, DTCC, OEWD, and other community groups.

Granville, Franklin, Vance & Warren County Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

The Career & Technical Education programs of Granville County Schools, Franklin County Schools, Vance County Schools and Warren County Schools have partnered with Vance Granville Community College to form a partnership titled "Advanced Manufacturing Skills Training Alliance", the purpose of which is to develop a regional workforce that can operate, troubleshoot and maintain industrial equipment. The alliance will prepare students and area residents for careers in manufacturing and related industries.

A regional consortium was established to include representatives from three workforce development boards (Kerr Tar, Triangle and Durham), five community colleges, ten local school districts, and various business and industry partners. We applied and were approved to become a Regional Career Pathway in Advanced Manufacturing, IT, and Health & Life Sciences. We were approved in 2017-2018. This group is currently (2018-2019) working in the Construction Trades in becoming a Regional Career Pathway.

A Summer Cruising Professional Development was hosted by Warren County Schools June 20, 2018 at Warren County High School. Teachers from across the four districts (Granville, Franklin, Vance, Warren) attended. Dr. Ray Spain (Warren County Superintendent) welcomed the group, and the teachers were exposed to Warren County High Schools Advanced Technology (SIM, Video Production, Nuevo Span System). The group also learned about Mechatronics through a presentation made by Wesley Williams from Vance Granville Community College. They were engaged with Barbara Boyce who discussed Regional Career Pathways. Franklin County High School's Robotics Club also presented to the group. We showcased AMSTA through a variety of presentations. Our faculty attended and presented at several National Conferences: ACTE, Southern Regional Education Board/High Schools That Work (SREB/HSTW) and Science Technology Engineering Math (STEM).

Paid Internships provided students with work-based learning experiences in local and regional manufacturing companies. Upon completion of their internships and graduation some interns had their tuition to college (community) paid by their employer.

Rutherford County Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

Through initial conception and original design of the project supported by this grant, Rutherford County Schools

sought to ensure that every graduate is prepared for career and college success by transforming its secondary schools. The school district intends to substantially enhance its graduates' readiness for postsecondary success through multiple transformational strategies.

During the project's fourth year, activities were focused in two areas, including (1) enhancing academic rigor within the instructional core; and, (2) continuing development and articulation of five-year high school-to-college course sequences in collaboration with the school district's postsecondary partner, Isothermal Community College.

Rutherford County Schools contracted with RTI International to provide leadership coaching to Principals in the target schools and contracted with Bridgewood Educational Services to provide subject-specific content coaching to teachers in the target schools and academic areas during the 017-18 school year. RTI International facilitated and delivered customized leadership development for school leadership teams, including six service days of paired team development sessions (two service days each for three paired teams) and virtual follow-up service as needed; one off-site team strategy session for one-half of a service day; and, seven participation slots at RTI peer networking event in conjunction with the one off-site strategy session. Bridgewood Educational Services provided ongoing support for the continued installation of two initiatives of the Southern Regional Education Board (SREB), the Literacy Design Collaborative (LDC) and Mathematics Design Collaborative (MDC). Both initiatives intend to enhance instructional rigor within the academic core, consistent with school district's original EWIF project goals.

Throughout the year, students at high schools within the district enrolled in courses articulated in five-year course sequences developed in collaboration with the school district's postsecondary partner in its EWIF project. School district leaders continued their meetings with leaders at Isothermal Community College to support development, articulation, and implementation of those course sequences. Those efforts continue to prove complex given the need to negotiate interconnected student eligibility requirements, institutional prerequisites, and other regulatory considerations. Nevertheless, the work group has completed and published numerous course sequences that organize programs of study in ways that allow greater numbers of students to graduate from high school with entry level workforce credentials that they may upgrade through only one additional year of community college study. The district's high schools used those course sequences to counsel students during academic advising and registration sessions. Copies of those course sequences are available upon request.

Surry County Schools	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$800,000	160,000	160,000	160,000	160,000	160,000

The original goals supported by this grant were to create a "Career and College Culture" with an emphasis on STEM skills in our middle schools; and, in conjunction with transforming one middle school into a magnet school, creating a Science Institute serving as a laboratory for instructional best practice in science for our entire district. The ultimate goals of this work were to create a direct pipeline for students to enter into high school to college pathways aligning with STEM careers in our community and region.

Meadowview Magnet Middle School opened its doors in 2014 with the goal of being STEM Magnet School. The school enrollment now includes 55 magnet students, students are earning high school credits (in 2016-2017, students earned a total of 160 high school credits; in 2017-2018, students earned a total of 94 credits), science proficiency is on the increase (see data points in #4 below), and the school has most recently been named a NC STEM School of Distinction.

The funding has afforded us the opportunity to increase the STEM focus at this school and increase professional development and support through the Science Institute and through PBL training.

Winston-Salem/Forsyth County Schools Kennedy High School	Total Award	Paid FY 2014	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$350,000	70,000	70,000	70,000	70,000	70,000

The original goals and expectations in Winston-Salem/Forsyth County Schools was to:

Provide authentic education-to-work connections for grades 6 -12

- Scaffold exposure to potential careers
- Technical certifications, Industry Credentials
- Job shadowing/internships

Create college-going/career-ready culture through staff PD

- Talent development/coaching model for PD
- Career Coach position to support Staff PD/growth

Create a more personalized learning environment for students

- Academic structures
- Supplemental wrap-around services

The following activities have been accomplished with the grant funds:

- Professional Development
  - o Ron Clark Academy - 13 faculty X 18 hours each  
Intense immersion in PL and digital learning supported by a social structure which will improve staff and student engagement and enthusiasm. A “house” structure will be implemented in 2018-2019 that will include ALL students and personnel in the social and emotional learning of every student and bolster the understanding of the CTE Academies by connecting and educating students and staff on a personal level on a common theme (one family, many branches, different career interest across each branch).
  - o Hollyhock Principals’ Institute  
The goal of the Hollyhock Principals’ Institute is to leverage the teaching fellows’ (this school has 3 teaching fellows) to leverage learning across the larger school context. The Hollyhock Principals Institute provides an opportunity to learn about a practice-based approach to professional development. This PD was applied to the ongoing PL activities.
  - o AVID - Principal Orientation  
Implement strategies to improve college and career readiness for students who need additional supports to achieve more than baseline proficiency. The larger school implementation was not funded by the LEA. Strategies learned will be applied to the ongoing personalized learning PD.
- Career Coach
  - o 100% students touched: 332 total students enrolled (6-12)
  - o 100% teachers touched: 36 total teachers
- Number of hours of teachers support and/or PD led: 75
- Academy Enhancements: Credentials Earned  
2017-2018 Credential Report from DPI is not yet available. Preliminary numbers show a significant increase in the number and diversity of credentials earned.
- Additional Courses:
  - o During 2017-2018 Added Multimedia & Webpage Design
  - o During 2018-19 Registration expanded student access to completer courses in A/V & Arts Cluster via enrollment in Career Center CTE Courses (Radio & Digital Media)
  - o Increased enrollment in Entrepreneurship 1
- Business Advisory Council
  - o Actively working to re-establish Business Advisory Board.
  - o Presented information to Civic Organizations
- Career Exposures & Experiences for MS Students/HS Students:
  - o Enrolled 50% high school students in “Adult for a Day” Financial Training through Center for Smart Financial Choices
  - o Provided volunteer employment through Allegacy Student Run Credit Union
  - o Career Cafe - 25 speakers, all high school students participated
  - o Began tracking field trip participation to analyze number of students impacted and ensure adequate access to work based learning for all students. Metrics will be available during 2018-2019 to guide future planning.
- Student-led conferences were continued and held 3 times during the year.

- o The format and function of the student led conference as originally designed is still being implemented in the middle school grades (6-7-8). Participation remains about 20% of middle school families.
  - o Began leadership training and pilot program with all 9<sup>th</sup> grade students to implement advisor-advisee program. Goal is to impact student perceptions around ownership of personalized learning and self-esteem. PanoramaSurvey results show an increase in self-efficacy over the course of the pilot. Planning began to implement for all students in 2018-2019.
- Digital Learning:
    - *How implementing?* Continuation of Team for Tomorrow blended learning PD to model personalized learning for teachers through monthly PD 1:1 with Tech Coach for topic of teacher's choice (for example, chunking lessons using digital tools.)
    - *How students benefitting from use?* Students were able to access classroom material and information from teachers, counselors and staff.
  - Interest Inventories: Teachers use Career Interest Inventories to assist students identifying their career choice and building real life classroom activities that will be relevant to the students. All 6<sup>th</sup> and 9<sup>th</sup> grade students were assessed and results shared with teachers. Learning Style inventories were also done to complement the Interest Inventory and explicitly tie student self-efficacy to concrete skills needed to succeed in the classroom and on the job.
  - Goals moving forward:
    - o Continue 1:1 conversations between the CDC, Career Coach and 8<sup>th</sup> grade students.
    - o Add 1:1 CDC meetings with all 11<sup>th</sup> grade to assess interest and ability to attempt summer internship related to Career Academy
    - o Increase number of Academy workshops and activities during school day.
    - o Implement a Teacher Internship program to expose teachers in all areas to the connections between the Academies, work/careers, and core content.

Wilson County Schools	Total Award	Paid FY 2016	Paid FY 2017	Paid FY 2018	Paid FY 2019
	\$350,000	87,500	87,500	87,500	87,500

The original goals and expectations for the activity supported by this grant was to help an early college high school named Wilson Academy of Applied Technology help students graduate prepared to enter the local workforce in Wilson, North Carolina.

The grant funds were expended in three main areas – Contracted Services, Supplies/Textbooks, and Equipment/Technology. These three areas all aided the growth and development of our staff and students throughout our first year of operation. Many of the staff have never worked in an early college high school, so their professional growth is paramount to the sustainability of our school. The teachers received professional development from RTI throughout the year. They have learned instructional strategies to support our focus to require students to read, write, think, and speak daily. They also began their studies of project-based learning, which allows our students to solve real-world questions using the Standard Courses of Study. Online and hard copy textbooks were purchased to also support the instructional support needed for the program. This resource serves as a guide for teachers to teach rigorous and grade-level appropriate lessons. Lastly, we were able to buy technology to have a one-to-one ratio. This is vital in our instructional environment. We are able to offer resources and support through the ability to issue every student his or her own laptop. For example, students use these devices to complete their assignments from their high school and college courses. It allows us to use innovative strategies like flipped classroom. We were able to purchase textbook software that allows students to complete homework assignments digitally whether they have internet access or not at home. When they return to school the next day and their device connects to the network, it grades their assignment, giving them instant feedback. This is just one of many examples having one-to-one devices assists with on a daily basis.

## **(2) Recommendations for statutory requirements**

There are no recommended statutory or policy changes recommended for the grant, currently.

### (3) Recommendations for improvement of each program

There no recommended improvements for the programs.

### (4) CTE Grade Expansion Program

The Career & Technical Education Grade Expansion Program was established to expand CTE programs by prioritizing the inclusion of students in sixth and seventh grade through grant awards provided to selected local school administrative units for up to seven years. Grant funds shall be used only for employing additional licensed personnel in CTE areas, CDC areas and support service areas necessary for expanding the CTE program to sixth and seventh grade students. The funds may be used for CTE programs at one or more schools in the local school administrative unit.

Fourteen LEAs received the initial award for the 2017-2018 academic year. Grant awards included:

School Board Region	School Board District	School District	Award Amount
Northeast	1	Currituck	\$50,000
Northeast	1	Perquimans	\$34,200
Southeast	2	Carteret	\$49,500
Southeast	2	Greene	\$50,000
North Central	3	Franklin	\$50,000
North Central	3	Johnston	\$50,000
North Central	3	Warren	\$50,000
Sandhills	4	Moore	\$50,000
Piedmont-Triad	5	Mt. Airy City	\$49,912
Northwest	7	Alexander	\$50,000
Northwest	7	Alleghany	\$49,542
Northwest	7	Avery	\$50,000
Northwest	7	Hickory City	\$41,000
West	8	Rutherford	\$50,000

The LEAs participating in the program received the first-year installment of their grant funds for FY18. The program is in year two of implementation. Due to timing of the initial disbursement of grant awards, grantees are at various stages of hiring staff and implementing plans described in their applications. Grantees must apply each year to receive this 7-year grant. The scope of work is below for each LEA below:

#### Alexander County

**Award Amount:** \$50,000

The grant funds will be used to employ a middle school Career Development Coordinator. A job description was created and posted, interviews were conducted, and a person was selected for the position. But the person selected was employed as a middle school math teacher and would not be released to begin this new position until a replacement math teacher was found. The new middle school CDC began April 16, 2018. In the time that he has been employed, he is meeting with the middle school principals and teachers to formulate a plan for next school year. He will conduct a career interest survey with all 7th graders before the end of the 2017-18 school year to serve as a beginning point for the 2018-19 school year. For the 2018-19 school year, we plan to conduct career interest surveys for 6th graders, implement STEM tours for 8th graders, participate in Students@Work week, provide industry tours and/or speakers to middle school students, provide college tours, career fairs, and other career awareness activities.

There are 1146 students enrolled in CTE Courses as part of the grant.



We do not have enough data for this year to determine if modifications and/or adjustments will be necessary. We will implement our plans for next year and then make modifications and adjustments as necessary in subsequent years.

#### **Alleghany County**

**Award Amount:** \$49,542

We are using the funds to provide career development awareness, development and education for 6th and 7th grade students at our 3 K-8 Schools by hiring a CDC. Due to the timing of the grant funding, we had a difficult time finding a qualified candidate that was willing to leave their current school mid-year. With that said, we have hired a CDC who will begin full time in August of 2018. Currently, we are using a certified substitute to work with all 6th and 7th grade students, 126 in total, three days a week at Sparta School to begin the process. Our candidate is also in the process of developing the program that will be fully implemented in August. Once our CDC is in place, Career Development Courses will be taught to all 6th and 7th grade students in the school district, a total of 213 students. The CDC will assist in student scheduling to ensure students and parents are aware of CTE Pathways that are available in our district and how those pathways can lead to career and college opportunities. The CDC will also assist in developing partnerships with our local business and community members to provide speakers for classes and arrange student visits to businesses.

There are 213 students enrolled in CTE Courses as part of the grant.

Due to the timing of the grant funding, we had a difficult time finding a qualified candidate that was willing to leave their current school mid-year. With that said, we have hired a CDC who will begin full time in August of 2018. That will adjust our timeline on a few things. The program is currently being developed as is the survey but we are a semester behind on full implementation. Our enrollment numbers have already increased by 126 at Sparta School and next year Middle School CTE Enrollment should increase by 213. The current analysis is, we have instantly increased CTE enrollment and we are ready to fully implement program in August of 2018.

#### **Avery County**

**Award Amount:** \$50,000

We have had a freeze on hiring in Avery County Schools because of a significant budget deficit. We advertised for the position but were then told to hold off on hiring until after the board approved our plan to balance the budget. We will be hiring our new middle school Project Lead the Way Gateway to Technology/Career Development Coordinator position before summer conference. Students will be enrolled in these courses at both schools for both semesters next school year. Also, all 6th grade students will complete a digital literacy unit through CTE.

The projection for next year is 280 students which is 110 more students than this year.

We need to schedule students into these courses and define the plan for running all 6th graders through the digital literacy units. This will be much more realistic at the beginning of the year and not partially into a semester which is when we found out we received the grant this year. Re-scheduling the students at that point would have been disruptive.

#### **Carteret County**

**Award Amount:** \$49,500

Carteret County has hired a Middle School Career Development Coordinator with the use of the grant funds. The Career Development Coordinator will serve all 5 middle schools in Carteret County and will work with all students in the building, not just the ones enrolled in a Middle School CTE Course. This will be achieved by acting as a support staff to all teachers in the building and working in all curriculum areas to tie in the discussions of further education, college research, career planning, and ultimately better awareness of program offerings in their respective High Schools as it relates to their interests.

We have no current data as of now because the grant was just funded. The ultimate plan of the additional Career Development Coordinator is that our students become more aware of their interests at an earlier age and have a connection between that and what is offered at their High School with regard to course offerings that are specific to their pathway or goals. It is also imperative that the information be shared with students and parents as they progress through middle school so they can make better informed and more purposeful decisions with regard to their high school planning and post-secondary goals.

## **Currituck County**

**Award Amount:** \$50,000

Currituck CTE Grant funds have been used to hire a full time 10-month educator that will work exclusively with the students and teachers at the 6th and 7th grade students (CTE Career Expansion Coordinator, CEC).

The listed activities are designed to expand the student CTE experience, as well as their individual knowledge of perspective career opportunities. Currituck County has 2 middle schools - Currituck Middle (population 383) & Moyock Middle (population 563).

Middle programs that have been affected: BU10, BU20, AU01, CC58 Programs have been infused with direct career related lessons, and activities to align with the NCDPI Career Clusters.

Student and parent response has been of excitement, and willingness to get on board with the movement. Parent reaction and comments at parent meetings have shown they are ready to provide their follow-up at home and at other community activities.

The CEC will initially use "Virtual Job Shadow" program for interest, aptitude and abilities testing to begin the process of student career identification. CEC will gather data from testing to design career specific activities and shadowing opportunities in our local community. CEC will continue scheduling parent information events as well as scheduled business and industry visitations to build our business partner pool. CFNC student registration for all 6th and 7th graders will enable students to begin developing an ongoing portfolio and log individual survey, aptitude, and interest information. CEC will access site to collect data to be used for future planning and shadowing events.

CEC schedules classroom push in sessions to highlight the different career pathways as well as expose post-secondary possibilities. CEC is in the process of developing a "Career Club" for students to attend during regular club days offered at each middle school. CEC is developing a parent/business advisory panel to help guide curricular and shadowing activities scheduled for student groups. CEC schedules specific business and industry representatives to visit classrooms to share specific industry related information. CEC is working with high school and COA to develop program visitations for identified student groups as they are identified through Virtual Job Shadow. CEC will collect data (KWL) What the student knows, what the students, what students learned, this will be utilized at various stages throughout the 6th and 7th grade expansion program.

Field trips are currently being planned for the 2018-19 school year to encompass each career cluster. CEC is planning 9th grade orientation activities to be included in regular programming during the month of August. CEC will provide career related PD to all middle school CTE teachers during regularly scheduled school wide PLC days.

As the grant position began in February for 2017-18 the following numbers are for 1 spring semester only. These numbers will potentially double for next school year as we will be affecting both semesters. Currituck Middle School Spring 2018, 6th and 7th grade 180 students, Moyock Middle School spring 2018 6th and 7th grade 241 students.

At this time the program is off to a great start. Based on feedback from students, teachers, business community and parents. Excitement is growing quickly to move into hands on and shadowing experiences for the upcoming school year. We are anxiously awaiting the opportunity to track more data through fall 2018 results, as the grant award was received in January well into the second semester. All indicators are positive and additional activities continue to be planned as a result of this initial data collected. We have also seen positive results from student interest surveys that demonstrate a narrowing of potential career interests and goals. Students are asking more career related questions in all classes as a result of activities thus far. Discussions are happening to expand PD to academic teachers to better communicate with students when questions are asked outside of the CTE classroom. Parents and the business community will be an integral part of the success of the program, therefore planning is taking place to further involve them in the daily operations of the program through such activities as initiating live streaming opportunities both at the high school and local businesses.

## **Franklin County**

**Award Amount:** \$50,000

Franklin County Schools CTE Extension Grant provided funding to hire an Agriculture Education teacher to teach two exploratory courses in Agricultural Science and Biotechnology in Agriculture to students in grades 6 and 7 at Cedar Creek Middle School. Ms. Morgan Meadows is a 2018 graduate of Mount Olive University majoring in Agriculture Education with a minor in Animal Science. She has brought with her a lot of passion, energy and resources in promoting Agriculture at Cedar Creek Middle School. Cedar Creek Middle School is one of the feeder middle schools for Franklinton High School which employs two Agriculture teachers, one of them is also a 2018 Mount Olive University Agriculture Education graduate with a minor in Animal Science. Ms. Morgan and Ms. Harkley (non-traditional teachers) coordinate together in providing a

firm foundation with the Agriculture, Food and Natural Resources Career Cluster. These students can continue their experiences at Franklinton High School, through CCP courses at Vance Granville Community College with further studies at Mount Olive University, NC Agriculture and Technical State University and NC State University four-year institutions.

The program outcomes achieved in this grant will be to increase the number of CTE completers in the Agriculture, Food and Natural Resources Career Cluster, to enhance the number of non-traditional students involved in the cluster and to improve the number of Special Populations sub groups and scores. This is the second year of this program and we have seen an increase in enrollment in these courses. In the first year (2017-2018) of the grant there were 120 students enrolled in the program. The Farm Bureau and the NC Cooperative Extension Service are partners that has provided resources for classroom speakers, farm tours, job shadowing, FFA projects within school and out of school, and monetary support toward the greenhouse at Cedar Creek Middle School. Our middle school Career Development Coordinator reported to have twenty students enrolled in this program has participated in job shadowing activities i.e. Veterinary Clinic, Forestry and Environmental Science activities.

Franklin County Schools (CTE) has provided additional funds (PRC 14, PRC 17, and local funds) to support the Agriculture teacher in providing the following: hands-on lab, classroom with smartboard and projector, office and printer supplies, greenhouse, district one to one initiative, supplies and materials for classroom and lab activities.

Valuable program analysis will result in middle school student involvement enriching real world applications directly related to the world of Agriculture production in Franklin County. Recently, we have a farmer in the area to inquire about using her farm as an education/teaching farm to promote FCS Agriculture programs offered at the middle and high schools. Students' work and field trip reports will be showcased on the Franklin County School's website and write ups will be provided in our local papers: *The Franklin Times* and the *Wake Weekly*. This reporting process will allow other students, parents, and community citizens to see the impact and success of the establishment of a middle school agriculture program and FFA chapter as well as it's community outreach programs.

The establishment of a middle school agriculture program will provide invaluable ongoing program analysis with each passing school year. Each year, new "seeds will be sown" providing agriculture knowledge and exciting career choices.

### **Greene County**

**Award Amount:** \$50,000

Plan for Expansion GCS will use the CTE Grade Expansion Program Grant to expand the CTE Department at GCMS by hiring and training a teacher for sixth and seventh grade computer science classes beginning in August 2018. GCS will use existing CTE funds to implement an 8th grade computer science class in August 2018. Both teachers will receive on-going training and professional learning on the Code.org curriculum beginning Summer 2018 through a partnership with the Friday Institute. The middle school coding classes will be the foundation for related high school courses which include Microsoft Introduction to Computer Sciences. Using current CTE funds, computer science classes (including Computer Programming II and AP Computer Science) will be added at GCHS to provide students with a course of study that will prepare them for college programs or careers in computer science. These courses will support the Information Technology Cluster/Programming & Software Development Pathway. We currently do not have any completers in this pathway and it is our goal to promote and build this program at the middle school level to ensure students arrive at GCHS prepared for more advanced computer science courses and success in this pathway. It is evident that CTE is seen as a pathway to future success by our students. In 2016-2017, 82% GCHS students were enrolled in at least one CTE course and 51% of GCHS students earned an industry recognized credential or third-party skill certification. Our CTE program is valued by all students. Last year, 51% of the students completing CTE or STEM related non-CTE classes were female. 43% of students enrolled were African American, 22% were Hispanic and 33% were White. Furthermore, funders and higher education partners Greene County Schools 2 continue investing resources and partnering with GCS to expand pathways and prepare students for STEM careers. GCS is a member of STEM East (guided by a council of 11 district superintendents and leaders of the 11 largest employers in eastern NC) which exists to align efforts of schools and employers to develop a qualified regional workforce to fill jobs in STEM fields and positively impact the regional economy. There is a clear demand for employees with computer science expertise. Over the past several years strong partnerships with Lenoir Community College (LCC), East Carolina University (ECU), Golden Leaf Foundation (GLF), Duke Energy Foundation, Burroughs Wellcome Fund (BWF) and STEM East have made it possible for us to expand CTE programs aligned to regional workforce needs. Most recently, these partnerships have made it possible to create a Computer Integrated Machining program with state of the art equipment, install a middle school STEM lab, purchase computers needed for computer science labs at GCMS and GCHS, purchase new equipment for health sciences and core and sustainable technologies classes as well as startup funding to begin a pharmacy technician program. Industry partners are on board with work-based learning. They meet with the CTE Director and Career Coach to review curriculum, provide feedback and organize work-based learning experiences for students and teachers. In addition to field trips, awareness events and internships for students, several GCMS teachers

have participated in Kenan Fellows and Teachers at Work (sponsored by North Carolina Business Committee for Education). Our teachers know how to effectively connect classroom and real-world experiences for students.

There are 160 enrolled in CTE courses as a result of this grant.

Plan for Expansion GCS will use the CTE Grade Expansion Program Grant to expand the CTE Department at GCMS by hiring and training a teacher for sixth and seventh grade computer science classes beginning in August 2018. GCS will use existing CTE funds to implement an 8th grade computer science class in August 2018. Both teachers will receive on-going training and professional learning on the Code.org curriculum beginning Summer 2018 through a partnership with the Friday Institute. The middle school coding classes will be the foundation for related high school courses which include Microsoft Introduction to Computer Sciences. Using current CTE funds, computer science classes (including Computer Programming II and AP Computer Science) will be added at GCHS to provide students with a course of study that will prepare them for college programs or careers in computer science. These courses will support the Information Technology Cluster/Programming & Software Development Pathway. We currently do not have any completers in this pathway and it is our goal to promote and build this program at the middle school level to ensure students arrive at GCHS prepared for more advanced computer science courses and success in this pathway.

#### **Hickory City**

**Award Amount:** \$41,000

Grant funds have been used to pay the salary of a newly added position, a middle school Career Development Coordinator/Special Populations Coordinator to provide career related services to middle school students, primarily 6th and 7th grade students and to provide additional support to our CTE teachers and our special populations students.

Since the middle school CDC/SPC position was just added in February 2018, we will not see the results until these current 6th and 7th grade students register for high school courses, but we believe we are on-track to achieve the desired outcomes. At this time, no adjustments or modifications are needed.

#### **Johnston County**

**Award Amount:** \$50,000

Two half time Career Development Coordinators were hired to support the 13 JCPS middle schools and to assist with student access to the career exploration platform that was purchased this year. At this time data is being collected to help in the determination of CTE programs and high school course expansion. Currently 8th grade has been the target audience due to the March date of CDC hires. By the end of the school year, 8th grade students will have completed interest inventories and career match activities on the career exploration platform. Sixth and seventh grades will be added to the delivery model in the 2019-20 calendar year.

We are targeting all 8th grade students for career exploration this year. There are 2,761 enrolled in JCPS. There are 2,071 8th graders enrolled in a CTE course in JCPS (unduplicated count).

Our middle school career development coordinators were hired and started work in March. Based on the data collected March through June 2018, 981 8th grade students have been served through the grant and all 13 middle schools have been visited except one. We will need to incorporate the 6th and 7th grade students in the career development platform next school year in order to achieve the desired outcomes. We have begun training middle school counselor and grade level team leaders on the career development platform. This work will need to continue to meet desired goals. We are working toward the establishment of a county-wide calendar for implementation of career development activities, minimum of four visits per school per year addressing all middle school students.

#### **Moore County**

**Award Amount:** \$50,000

Moore County was unable to spend the 17-18 award of \$50, 000 due to being on a hiring freeze when the grant award was encumbered. The freeze was lifted on April 30. Since the lift we have interviewed a made an offer to the chosen candidate. The candidates expected start pending July board approval is August 1.

No students were enrolled and there were no recommendations for modifications or adjustments due to not being able to hire the staff member.

#### **Mt. Airy City**

**Award Amount:** \$49,912

Upon funding of the CTE Grade Expansion grant we hired a full time CTE position at MAMS. This position will serve as a half-time CDC and half time CTE teacher (Exploring Career Decisions), which will work closely to bridge gaps and foster a stronger collaborative relationship between MAMS and MAHS. This person will also work closely with the CTE Director, as well as all of the CTE teachers at MAMS, the school counselor and the school-based administration. This additional position will ensure that MAMS is providing instruction in the area of career exploration CTE coursework, serving 6th and 7th grade students. The CDC will also meet with students to complete Career Cruising while in middle school and meet with individual students as they make decisions about their future CTE pathways while in high school. The addition of a CDC will also allow a specific person to work on strengthening existing partnerships and placing an emphasis on developing new partnerships with local/regional businesses or industry. These partnerships will allow MAMS to serve students through opportunities like job shadowing, Students @Work experiences and externships for teachers. There are 244 students enrolled in CTE courses as part of the grant.

Based on the most recent feedback from the Business Advisory Council expansion, we will endeavor to expand the connection between the business sector and student interaction and exposure to local workforce needs. Student feedback indicates that current high school level CTE students could serve as mentors and sources of guidance around coursework and pathways.

### **Perquimans County**

**Award Amount:** \$34,200

The grant added a Career Development Coordinator who has been implementing career exploration activities at both the middle and high school levels. Additionally, two new internships have been established in the community. There are 842 students enrolled in CTE courses as a result of the grant. Continuation of the CDC position for a full school year. We have seen increased student engagement in computer science related activities at the middle school level with the Expansion grant and the Coding Grant. We are developing stronger relationships with the community college and businesses for designing work-based opportunities for students in fields that are not offered at the high school level.

### **Rutherford County**

**Award Amount:** \$50,000

The expansion of the Rutherford County Schools CTE program to 6th and 7th grade students features new course offerings that include Learn to Code I, II, and III in our middle schools (Chase Middle School, East Rutherford Middle School, and R-S Middle School). Funds (\$50,000) from the CTE Grade Expansion Grant are being used to employ an additional middle school CTE teacher to offer the Learn to Code I, II, and III courses. There are 80 students enrolled in CTE courses as a result of the grant.

Our newly hired CTE teacher is initially delivering instruction/Learn to Code course content to students at R-S Middle School. At the beginning of the 2018-19 school year our CTE teacher will rotate to East Rutherford Middle School and be delivering face-to-face instruction to their 6th and 7th grade students. After a 12-week period at East Rutherford Middle School, the teacher will follow the same process at Chase Middle School.

### **Warren County**

**Award Amount:** \$50,000

A Middle Grades Career Development Coordinator was hired to develop a variety of programs in collaboration with existing teachers and staff, business and industry partners and community stakeholders that focus on the following Career Clusters: Architecture and Construction; Business Management and Administration; Finance; Health Science; Hospitality and Tourism; Law, Public Safety, Corrections and Security; Marketing; and Transportation, Distribution and Logistics.

This grant provided the funding necessary to expand the Career Development activities to 6th and 7th grade students. The Career Development Coordinator will have the flexibility to implement these programs in conjunction with the middle school academic and CTE teachers. The Middle School Career Development Coordinator will work closely with the Warren County High School CTE teachers and staff to develop programs that include collaborative activities between the middle and high school students. Warren County Middle and Warren County High School have adjoining campuses that make this effort easy to coordinate. It is also a goal of this initiative to strongly encourage more students to consider careers in non-traditional areas. According to the data in the CTE Local Planning System, Warren County (22 percent) is well below the 31.2 percent benchmark in the area of Non-Traditional Participation (6S1). The Middle School Career Development Coordinator will focus on programs and activities designed to improve this performance indicator. The Middle School Career Development Coordinator will work with existing partners such as the Warren County Economic Development Commission, The North Carolina Department of Transportation, and Wake AHEC to expand activities that have been traditionally offered at the High School level into the Middle Grades. New Partners that focus on Middle Grade career programs will be developed. The Career Development Coordinator was hired in March 2018. She is working with the current CTE teachers and staff to develop programming,

curriculum and activities for the 2018-19 school year. The master schedule for 2018-19 will be developed to include this curriculum and program. Students will be enrolled during the 2018-19 academic year.

Based on the funding available, Warren County Schools plans to propose hiring two part-time Middle Grades Career Development Coordinators instead of one full time person to carry out the goals of the grant. This will allow us to take advantage of hiring experienced (retired) CTE teachers. These teachers bring a wealth of knowledge and experience into our middle grades classrooms and are affordable to the district. We plan to make adjustments to the middle and high school schedules to allow these programs to utilize high school CTE teachers and equipment within the program areas for hands-on activities.

#### **2018-2019 CTE Expansion Grantees**

With additional funding for FY19, thirteen additional LEAs were funded for a total of 27 grantees. Greene County did not apply for FY19 funds due to having FY18 grant funds still available. Greene County is continuing to implement the grant during FY19 and intends to re-apply for FY20 funds and continue the grant efforts. Plans are currently being implemented to hire additional staff and expand offerings to sixth and seventh grade students. Data collection is underway to determine program effectiveness for the LEAs participating in this 7-year grant.

School Board Region	School Board District	School District	Award Amount
Northeast	1	Currituck	\$50,000.00
Northeast	1	Dare	\$32,655.34
Northeast	1	Halifax	\$35,000.00
Northeast	1	Perquimans	\$50,000.00
Northeast	1	Pitt	\$50,000.00
Southeast	2	Brunswick	\$50,000.00
Southeast	2	Carteret	\$49,500.00
North Central	3	Franklin	\$50,000.00
North Central	3	Johnston	\$50,000.00
North Central	3	Warren	\$50,000.00
Sandhills	4	Cumberland	\$49,500.00
Sandhills	4	Moore	\$50,000.00
Sandhills	4	Scotland	\$50,000.00
Piedmont-Triad	5	Elkin	\$47,500.00
Piedmont-Triad	5	Mt. Airy City	\$49,971.45
Southwest	6	Cabarrus	\$50,000.00
Southwest	6	Scotland	\$50,000.00
Northwest	7	Alexander	\$50,000.00
Northwest	7	Alleghany	\$50,000.00
Northwest	7	Avery	\$50,000.00
Northwest	7	Hickory City	\$50,000.00
Northwest	7	McDowell	\$50,000.00
West	8	Cherokee	\$50,000.00
West	8	Clay	\$50,000.00
West	8	Henderson	\$50,000.00
West	8	Rutherford	\$50,000.00
West	8	Transylvania	\$50,000.00