

# NORTHEAST BOCES CONSORTIUM

## BACKGROUND

The points noted by the Perkins Field Council members who reviewed Local Plans for Best Uses of Funds that were key to the selection of the Northeast BOCES Perkins Consortium Local Plan included:

- Meeting with CTE teachers to discuss grant and math attainment;
- Bringing in guest speakers for professional development;
- Clear action step descriptions;
- Crop and Seeds action step;
- WAVES, Nepri-STEM; SWAP; ACTE, CACTA;
- High School of Business – concurrent enrollment/college-level;
- Brain research training.

The Northeast BOCES is comprised of twelve rural districts spread over 5,068 square miles. Total Pre-K through 12<sup>th</sup> grade enrollment per district ranges from 106 to 804 students, depending on the district. There are approximately 1200 high school students in the total consortium. There are a total of 29 CTE programs across the consortium: Eleven are Agriculture Education; 11 are Business Education; and 7 are Family Consumer Sciences Core or Occupational programs. There are 30 CTE instructors.

Given the small size of the individual districts and the distance between them, the consortium turned to distance learning (WAVES-Wide Area Virtual Education System) to provide access to CTE programs for as many students as possible. Most districts have at least one classroom electronically set up for virtual teaching and learning. Additionally, all students and teachers can utilize distance learning opportunities through the use of iPads or laptops in any classroom.

### **New Situations**

There was a recent change in CTE leadership, when the long-time CTE coordinator retired and a new coordinator assumed the role. Coming directly from the classroom, the new coordinator reached out to CCCS staff for guidance and support. All CTE instructors were brought together in the spring of 2015 to work with the coordinator in developing the Perkins Local Plan for the 2015-2016 fiscal year. The CTE Coordinator is bringing an economic development expert from Sedgwick County to talk about aquaponics and robotics when the planning committee comes together in the spring of 2016.

### **Challenges**

The Field Council volunteer team cited some challenges currently facing the consortium of districts:

- Coordinating scheduling among 12 schools to allow for distance learning in real time;

- Staff buy-in;
- Expense of the High School of Business program (see Key Innovations section), especially in the formative years and/or if there is teacher turnover. Each new Business Education teacher needs to attend High School of Business training prior to teaching the courses;
- Staff retention;
- Non-licensed counselors in some districts.

### **Students Served**

This consortium of 12 rural school districts as a whole, includes students who are primarily white. But there are three districts with Hispanic student populations between 17% and 44%. Gender enrollment in CTE programs is well-balanced. Approximately 14% of the high school students across the districts are students with special needs.

### **Able to Implement/Acquire with Perkins Funding**

Perkins funding helped with the salary of the CTE Coordinator, who leads the development of the Perkins Local Plan. She also coordinates meetings, workshops, trainings, etc. that relate to the implementation of the Local Plan and assure that Perkins required uses of funding are addressed.

In the local CTE Programs, students have access to Chromebooks, cameras, and other technology equipment purchased with Perkins funds. CTE students use laptops or iPads in distance learning courses. The Agriculture Education teachers are purchasing plant and seed samples for the development of a class visuals resource (see Key Innovations) as well as to teach students seed sorting, evaluation and analysis. Perkins funded software subscriptions and other teacher resources include Nepris, Adobe Creative Cloud, QuickBooks, Edutyping, Foundations of Personal Finances, and Restaurant Entrepreneurship.



### **Professional Development Support with Perkins Funding**

CTE teachers, grouped by their Career Clusters, requested the type of professional development they wanted as a group. The Business Education group chose to attend the High School of Business training. The Family and Consumer Sciences team asked to work

with a brain research expert (see Key Innovations.) All CTE teachers selected to affiliate with their respective professional organizations and attend those conferences.

## KEY INNOVATION(S)

Several innovative projects are part of the Perkins Local Plan for this consortium.

One CTE program which uses distance learning (WAVE) is the Business Education program which follows the *High School of Business* curricula developed by MBA Research. Usually each individual school that offers *High School of Business* has to pay an annual affiliation fee to MBA Research. However, the CTE Coordinator worked with the *High School of Business* coordinator at MBA Research to reach agreement about the BOCES being one entity for affiliation requirements. This allows access to all the member district high schools to the *High School of Business* curricula for one affiliation fee. This is the third year of implementation of the program. Students who complete the program are eligible for 12 articulated credits through Northeastern Junior College (NJC.)



*Distance Learning Technology in Use in High School of Business Class*

The real-time distance learning technology available to all the districts was not Perkins funded but it continues to allow all students in the region access to more options for course-taking.

A project that continues to be successful in partnership with the Northeastern Junior College is the 8<sup>th</sup> grade career fair held at the College campus.

The Nepris subscription brings STEM and other industry professionals virtually into the classrooms and these experts can help students with problem-based or inquiry-based projects.

The Family and Consumer Sciences educators agreed to work with a brain research expert. This person will lead a professional development session with teachers this spring semester, 2016 and will return in the next school year to present to students.

Agriculture Education teachers collaboratively designed a plant-seed project that creates a book of real samples for each Agriculture Education program. They purchased crop-seed samples and will use them for a printed book of visual samples. The students will recognize seeds and also will learn seed sorting, analysis and evaluation.

### **How These Support Student Transitions to the Next Level**

The High School of Business program requires student internships that place students at local businesses. And the curricula with this rigorous program offer 12 articulated college credits through Northeastern Junior College. The Nepris subscription connects local curricula to real world practitioners by virtually inviting industry professionals into the classroom to engage and inspire students to explore a variety of careers. The distance learning allows Northeastern Junior College instructors to teach some distance learning college-level courses. Many students from these districts attend Northeast Junior College after high school graduation.

### **Secrets to Success**

This group lists several factors that support success:

- Collaboration among students;
- Supportive superintendents;
- Classroom resources available in each district, allowing students access to distance learning courses;
- Consortium Team Time – Four meetings each year facilitated by the CTE Coordinator;
- CTE Coordinator shares office space with the SWAP (School to Work Alliance Program) Coordinator;
- Continuing with what has been successful;
- Putting students first;
- The CTE teachers collaborated in writing a Consortium CTE mission statement.

### **Related STEM Skills**

The virtual delivery system allows the programs to reach more students. The Nepris subscription introduces more students to a broad array of STEM career opportunities. The plant and see project in Agriculture Education provides activities that develop students' skills in critical thinking and analytical thinking.

### **Strategies to Address Non-Traditional Careers Recruitment/Retention**

Both genders are well-represented in all the CTE programs. There are several female Agriculture Education instructors and a good balance of male/female teachers in the Business Education program. Students value incentives that are tied to the different CTE programs, such as participation in career and technical student organization activities or field trips to the stock show. The brain research project being implemented by the Family and Consumer Science programs helps students understand human relationships in a broader scope than the old stereotyped vision of Family and Consumer Sciences.

## KEY FACTORS TO IMPLEMENTATION

### Challenges

Special training is needed for the High School of Business program. Obstacles for implementation of new ideas are similar and unique to other school districts around the state. Funding is always a challenge. The Perkins funds only go so far and to pilot new ideas can be a risk. The large geographic service area makes it hard to serve students and districts. For example, the Agriculture Educators would like a greenhouse but they cannot determine a practical and equitable location to make it accessible to all the Agriculture Education programs. It is also hard to bring teachers together for collaborative projects. Rural schools often are challenged with recruiting advisory committee members. One school district isn't even in a town.

### Support Systems

Superintendents have been instrumental in determining/aligning schedules to allow for distance learning. The CTE advisory committees are very supportive and the local Chambers of Commerce interacts with the programs and teachers. Agriculture and energy are the primary economic drivers of the region. School district general funds support CTE but teachers also write for grants.

## RESULTS

### Student Outcomes

The Perkins Performance Metrics of Graduation, Secondary School Completion, Technical Skill Attainment, and Placement rates are all high. Academic Attainment-Reading/Language Arts, Academic Attainment-Mathematics, and Non-Traditional Careers Completion are all close to the state target levels. This will be the first year of graduates from the High School of Business program.



*High School of Business students from Northeast Colorado*

### **How Were CTE Programs Strengthened**

All students have access to CTE programs. Funding support makes more programs and more classes possible. One district does not have any CTE programs but the students in that district still have access to CTE programs.

### **Can These Successes Be Replicated**

Yes! Students and teachers can be anywhere, real time, for distance learning. The crop-seed sample book developed for the Agriculture Education programs will have an internet link.

### **Words of Advice**

These recommendations were shared:

- Distance learning will not be effective with too many unsupervised students, so schools need an adult in the classroom if there are more than a few students participating in the off-site classroom.
- Practice good management.
- Learn the CTE/Perkins “lingo.”
- Consider grade levels when scheduling distance learning and consider what is grade-level appropriate.
- Seek expert advice and know the rules; use Colorado Community College System office resources.