Littleton Perkins Consortium

Background

The Perkins Field Council chose this Local Plan because of their use of funds to improve Perkins Performance metrics related to math attainment and technical skill attainment. The plan is not for new initiatives or new programs, instead concentrating on expansion and improvement of programs and improving metrics in the two school districts, Sheridan and Littleton. These two districts receive Perkins funds through a consortium use of one Local Plan even though the individual districts have different communities and needs. Sheridan is a smaller district with a larger population of low-income and minority population families. Sheridan struggles with the academic achievement metrics, while Littleton has low performance metrics for technical skill attainment (CTE program completers). The 2014-2015 Local Plan is a result of increased collaboration between the two districts to identify action steps that address performance metrics that will be mutually beneficial.

Both districts are urban, but the demographics are markedly different. Littleton has over 15,500 students with a 19.35% free/reduced lunch population and 26.30% minority enrollment (2014 October count). Sheridan has fewer than 1,641 students with a free/reduced lunch population that equals 84.49% of their student body (2011 figures, sourced from Colorado Department of Education). Littleton Public Schools is the highest academically achieving school district in the Denver metro area, and is the only Denver metro area school district to be "Accredited with Distinction" for five consecutive years.

All teachers in Littleton are in training around district standards and student learning outcomes. Perkins funds are used to send teachers to conferences and meetings that allow teachers to seek best practices and resources. These CTE teachers meet in a district-wide Professional Learning Community as well.

Key Innovation(s)

In the Littleton district, three part-time staff has been hired to work at each high school and study enrollment trends. It is hoped that data will be uncovered that might explain why so many students are only taking one course in a CTE program area.

The consortium is using some of their Perkins funds to purchase technology, construction equipment, appliances and measuring tools. These help provide relevance and rigor to the CTE programs by making the learning environment more like the workplace.

Some examples are:

- Students in a business class will use a new Smartboard for peer to peer sharing in learning formulas and functions in Excel.
- Students in the nursing program will have access to a washer and dryer as they learn about sanitation in patient care.
- Precision measuring devices like micrometers and gauges.

All of the funded projects are based on teaching **advanced industry skill** sets. The secret to success is described as, "Getting out of the CTE bubble." As they address their district's performance metrics, teachers are being encouraged to look beyond their CTE content and recognize how their programs can make a difference to the greater population, both school-wide and district-wide. They are focused on district and state goals, not just their program goals.

STEM skills are supported. Several of the funded projects focus on improving math and science skills.

- The Construction Technology programs in both Littleton and Sheridan require students to design and build incorporating math concepts.
- The Littleton Technical Occupations Cluster Program is switching from using LEGO Mindstorms® to Arduino, an open-source physical computing platform based on a simple microcontroller board, and a development environment for writing software for the board. Arduino can be used to develop interactive objects, taking inputs form a variety of switches or sensors, and controlling a variety of lights, motors, and other physical outputs. Arduino projects can be stand-alone, or they can communicate with other software.

The CTE programs encourage underrepresented genders in non-traditional careers.

- The Technical Occupations Cluster Program at Littleton has a female teacher.
- Design projects that appeal to females are offered and encouraged.
- Posters depicting the under-represented gender in various occupational settings are displayed throughout the high schools.

Key Factors to Implementation

Challenging Factors

Both Littleton and Sheridan districts are smaller communities that neighbor some of the largest districts in Colorado. Littleton has four high schools and one alternative school. The comprehensive high schools are very academically focused, and core classes are given scheduling priority. Students may take a semester CTE course, but the emphasis on academic courses keeps many students from taking a second semester of CTE. With site-based local control, it is a challenge to change the culture and expectations. Sheridan has one high school with limited space and limited resources.

- Staff resistance to new initiatives.
- Prices of some items originally requested in the plan have increased, as have some installation expenses. Many of the products that have been purchased were backordered, thus delaying the start of the initiative.
- Due to a relatively small Perkins allocation, both districts must rely on general fund dollars to provide the majority of support for their CTE programs.

Successful Factors

Some special professional development was needed to fully implement new program changes. Some teachers need the Microcontrollers for Educators training and this professional development was built into the plan.

Support systems that facilitate success: The CTE director/coordinators at Littleton and Sheridan have a good working relationship. There is strong support from district administrators, teachers, and advisory committee members. Littleton is especially grateful to their strong, active advisory committees.

RESULTS

It is too early in the school year to formally measure student outcomes but there has been evidence of increased student interest and engagement in the CTE programs. Students like that they see and understand the relationship of the math skills they are learning to the world of work.

Students see a reason for learning with more relevant curricula. There is increased teacher buy-in and understanding of state and district initiative and they recognize the importance of cross-curricular instruction.

These approaches can be replicated by other CTE programs, schools, colleges, and districts.

Words of Advice

> "CTE must live outside of its bubble – we are not a silo. Perkins is a tool to connect with others – business/industry, community, district, state and federal initiatives. To do what CTE does well and to be effective and accountable, we need to branch outside of our own CTE world."