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How Do Professional Learning Communities Foster Strong Career and Technical Education Programs of Study in Illinois Public High Schools?

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HOW DO PROFESSIONAL LEARNING COMMUNITIES FOSTER STRONG CAREER AND TECHNICAL EDUCATION PROGRAMS OF STUDY IN ILLINOIS PUBLIC HIGH SCHOOLS?

A DISSERTATION SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL OF EDUCATION IN CANDIDACY FOR THE DEGREE OF DOCTOR OF EDUCATION PROGRAM IN EDUCATIONAL LEADERSHIP

BY WENDY CUSTABLE

CHICAGO, ILLINOIS MAY 2013
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To my husband and best friend, Todd, who is my biggest fan.

And to our son, Lucas, who motivated me to complete this research.
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ABSTRACT

This research study examines how Illinois public high school Career and Technical Education educational leaders employ best practices in providing all students rigorous, relevant, and equitable learning experiences within a professional learning community structure.

This study utilized a mixed method two-tier case study methodology. Tier one consisted of a survey administered to 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago Public School system, with 72 leaders who responded. This survey asked the leaders questions about what CTE programs their schools offered students and how they provided these students rigorous, relevant, and equitable learning experiences that prepared them for college and career within these programs. In addition, the survey asked leaders if their schools were identified as professional learning community schools, as defined by DuFour, DuFour, and Eaker.

Tier two consisted of 10 semi-structured interviews with Career and Technical Education leaders, outside of Chicago Public Schools, whose schools met the identified criteria of providing a successful CTE program within a professional learning community. The participants were asked about how the blended CTE teams within their schools provided students rigorous, relevant, and equitable learning experiences that prepared them for college and career. Data collected from the surveys and interviews
were analyzed through the conceptual frameworks of the *Illinois Career Cluster Model Framework for Local Implementation and Evaluation of Programs of Study* and the *Professional Learning Community* framework.

This study concluded that according to the perceptions of Illinois public high school leaders, they are providing students with some level of rigorous, relevant, and equitable CTE learning experiences that prepared them for college and career. This study also concluded that the 10 leaders who were interviewed perceived that their CTE teams were attempting to implement the six professional learning community characteristics into their practice. However, these blended teams were faced with challenges of establishing interdependence within a division that has multiple singleton teachers, especially when taking action and “learning by doing” together for a common purpose.
CHAPTER I

INTRODUCTION

Since the 1917 adoption of the National Vocation Education Act, also known as the Smith-Hughes Act, preparing students and adults for the changing world of work has been a focus in the United States. For many years, high schools and post-secondary institutions have dedicated a lot time and money providing career education and guidance to millions of young adults. To this day, the national government continues to encourage and support educational institutions in providing all students with the knowledge and skills necessary to be a productive citizen. As stated in, A Blueprint for Reform, The Reauthorization of the Elementary and Secondary Education Act, “Every student should graduate from high school ready for college and a career, regardless of their income, race, ethnic or language background, or disability status” (2010, p. 3).

As the nation’s economic system evolved over the past 100 years, so did career education. After a number of revisions and new names, in 2006 the National Vocation Education Act transformed into Career and Technical Education (CTE). As currently published by the Association for Career and Technical Education, “Career and Technical Education (CTE) prepares both youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education—including industry-recognized credentials, postsecondary certificates, and two and four year degrees” (2011). The state of Illinois recognizes and supports five CTE areas:

Today, over 90% of all public school students in the nation take at least one Career and Technical Education course during their four years of high school to provide them with the academic and technical skills needed to be successful in the 21st century knowledge and skills based economy (IES National Center for Education Statistics 1990 to 2005, p. v; Jankowski, Kirby, Bragg, Taylor, & Oetrle, 2009). In Illinois, approximately 52% of high school students take a Career and Technical Education course annually (Illinois State Board of Education, Career and Technical Education in Illinois 2010, 2011, p. 1).

In 2006, the Carl D. Perkins Career and Technical Education Improvement Act (Perkins IV) was reauthorized requiring all states to offer programs that, “comprise academic, career, and technical content that prepares students to make successful transitions to postsecondary education and the workplace” (Perkins Collaborative Resource Network, 2006). In an effort to meet the requirements of this act, and to provide students with the knowledge and skills needed to succeed in the 21st century knowledge and skills based economy, each state revised their CTE program to include one or more of the 16 designated career cluster. The state of Illinois adopted the cluster framework based on the five CTE areas. Illinois’ Career Cluster model is:

1. Agriculture, Food, and Natural Resources
2. Business, Management and Administration
a. Marketing
b. Government and Public Administration
c. Business Management and Administration
d. Information Technology
e. Finance

3. Family and Consumer Sciences
   a. Education and Training
   b. Hospitality and Tourism
   c. Human Services

4. Health Science

5. Technology and Engineering Education
   a. Architecture and Construction
   b. Manufacturing
   c. Arts, Audio/Video Technology and Communications
   d. Science, Technology, Engineering, and Mathematics
   e. Transportation, Distribution and Logistics
   f. Law, Public Safety, Corrections, and Security

Although Illinois has 57 Education for Employment Regional Delivery systems and 24 Area Career Centers that provide resources for the 16 career clusters to public high school CTE leaders, faculty, and students, the methods and structures of how each public high school in the state provides career and technical education to their students...
may be vastly different (Illinois State Board of Education, *Career and Technical Education*, 2011).

Since the 2008 introduction to the CTE Programs of Study and the 2009 adoption of the Career Cluster framework, it has been the expectation that all Illinois public high schools, regardless of size, location, and resources, prepare their students for college and career. So, how are the Illinois public high schools addressing this expectation? The Illinois Community College Board and Illinois State Board of Education developed the framework below (see Table 1) to assist CTE leaders in the implementation and evaluation of the program of study they are providing their students.

**Purpose**

Educational mandates such as the 2011 reauthorization of the Elementary and Secondary Education Act and the No Child Left Behind Act of 2001, as well as the 2009 introduction to the National Common Core State Standards, require educational leaders to look for new methods and structures to improve student learning. The purpose of this dissertation study was to examine how the leaders of Illinois public education high school Career and Technical Education programs are attempting to do this.
Table 1

*Illinois Career Cluster Model Framework*

<table>
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<tr>
<th>Principle</th>
<th>Principle Statement</th>
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<tr>
<td>1. Leadership, organization and support</td>
<td>Programs of study are developed, supported and let with guidance from collaborative partnerships.</td>
</tr>
<tr>
<td>2. Access, equity and opportunity</td>
<td>Each and every student has access to educational opportunities and services that enable their success.</td>
</tr>
<tr>
<td>3. Alignment and transition</td>
<td>Education and training providers, with input from business and industry, enhance alignment that facilitates student preparation and transition through the educational pipeline.</td>
</tr>
<tr>
<td>4. Enhances curriculum and instruction</td>
<td>Curriculum and pedagogy involve rigorous and relevant instruction that enhances learning enables students to attain academic and technical standards and credentials.</td>
</tr>
<tr>
<td>5. Professional preparation and development</td>
<td>Comprehensive and continuous professional development that impacts teaching and learning is delivered to enhance the recruitment, preparation, and retention of qualified instructional and administrative staff.</td>
</tr>
<tr>
<td>6. Program improvement and accountability</td>
<td>Data are collected, shared, and utilized to improve outcomes and demonstrate accountability.</td>
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In 1998, Dr. Richard DuFour and Dr. Robert Eaker wrote the educational text entitled: *Professional Learning Communities at Work* and with contributions from Dr. Rebecca DuFour, in 2008, wrote an updated version entitled: *Revisiting Professional Learning Communities at Work*. In *Revisiting Professional Learning Communities at Work*, the authors define professional learning communities as; “educators committed to working collaboratively in ongoing processes of collective inquiry and action research to
achieve better results for the students they serve” (DuFour, DuFour, & Eaker, 2008, p. 14). The six characteristics of a professional learning community are:

1. Shared mission, vision, values, goals
2. Collaborative teams focused on learning
3. Collective inquiry
4. Action orientation and experimentation
5. Commitment to Continuous improvement
6. Results orientation

Since 1998, these authors have written numerous books and articles addressing the power of educators working together toward common student centered goals. In these multiple publications, DuFour, DuFour, and Eaker (2008) describe why and how schools should adopt the concept of educators working within collaborative teams.

Although DuFour, DuFour, and Eaker’s (2008) work has arguably changed the face of how educational leaders address the challenges of student learning through the work of professional learning communities, within their publications there is little research addressing teachers working in non-traditional programs – like Career and Technical Education. Not all schools or academic departments within a school have multiple teachers teaching the same subject who are able to share curricula and reflect on common student data. What about the teachers in schools who are the only teachers teaching Marketing or Architecture and Construction? Who should be on their collaborative teacher teams? Who provides these singleton teachers with curriculum, instruction, and assessment support? When a group of eight Algebra 1 teachers in a large
high school meet during their assigned collaboration time to talk about curriculum, they should share lessons and reflect on common assessment data. For this team, the common goal should be obvious. Their goal is to ensure all students in their school learn common Algebra 1 curriculum. For those teachers who are the only educators in their school teaching Marketing or Architecture and Construction, with whom do they share curriculum, instruction, and assessments? How do they insure their students are receiving rigorous, relevant, and equitable learning experiences? Who are their collaborative teammates?

Assuming the notion that if educators operate within a professional learning community their work will result in greater gains in student achievement, how do schools or specific academic programs, operating within a non-traditional context, such as Career and Technical Education, adapt the tenets of Professional Learning Communities? As described in Principle 1: Leadership, organization, and support of the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework, “Programs of Study are developed, supported and led with guidance from collaborative partners,” the answer should lie within the collaborative efforts of a school’s, administrators, teachers, guidance counselors, business partners, and other stakeholders (Taylor, Kirby, Bragg, Oertle, Jankowski, & Khan, 2009, p. 29). Therefore for the purpose of this research, we will consider the Career and Technical Education collaborative partners as a blended team.

This research defines blended teams as a group of diverse professionals with a common purpose, appreciation, and understanding, who work collaboratively towards
common student learning goals. Furthermore, this research defines Career and Technical Leaders as a state certified administrator whom is an advocate for Career and Technical Education and guides curriculum, instruction, and assessment of CTE programs in schools.

Since not all high school Career and Technical Education programs in Illinois have multiple teachers teaching the same courses, the collaborative work of this diverse team is an important component in developing and implementing Programs of Study that prepare students for college and career. Therefore, it is important to understand how Career and Technical Education blended teams in Illinois public schools employ best practices in providing students rigorous, relevant, and equitable learning experiences.

**Research Questions**

1. According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework? If not, what courses are they providing students?

2. According to the perceptions of Career and Technical Education leaders, how are they using the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework to develop and continually improve CTE programs in their schools?

3. According to the perceptions of Career and Technical Education leaders, how are they implementing professional learning communities to continually...
improve Career and Technical Education learning experiences for all students?

4. What are the perceptions of the current Career and Technical Education leaders concerning the importance of CTE programs for students and in their schools?

5. What are the implications of this research for educational leaders?

**Significance**

In 2009, governors and state commissioners of education formed a group called the Common Core State Standards Initiative (CCSSI). In an effort to ensure all students in all states are provided the same high standards of education, this group wanted to develop a set of national education learning standards (Kendall, 2011). The Common Core State Standards Initiative mission is to,

provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them.

The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy. (Common Core state Standards Initiative, 2011)

With representation from 48 states, two territories, and the District of Columbia, this committee was asked to write Common Core Standards for *English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects* and standards for
Feedback on the standards were provided by a variety of educational and assessment stakeholders, as well as teachers, parents, business leaders, and the general public (Kendall, 2011).

Although Career and Technical Education curricula is not directly addressed within the common core standards, the programs offered within CTE do serve as support systems in teaching core academic concepts and processes, specifically in the area of Reading Standards for Literacy in Science and Technical Subjects. Additionally CTE curriculum provides the technical skills students need to successfully transition to future careers. As stated by the Association for Career and Technical Education,

Today’s CTE provides students:

• academic subject matter taught with relevance to the real world;
• employability skills, from job-related skills to workplace ethics;
• career pathways that link secondary and postsecondary education;
• second-chance education and training;
• education for additional training and degrees, especially related to workplace training, skills upgrades, and career advancement. (Association for Career and Technical Education, 2011)

Assuming the mission of all Illinois public high school leaders is to successfully prepare all students for college and career, and establishing a professional learning community culture is a key element to achieve this mission, this research will illustrate of how Careers and Technical Education blended teams work collaboratively to insure students receive rigorous, relevant, and equitable learning experiences. Although the
structures and human conditions that exist on each of the CTE blended teams being studied may vary, data collected will present educational leaders’ ideas of how these teams successfully address the six guiding principles of the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework.

Methodology

Sampling

The methodology that was used to conduct this research was a mixed method two-tier case study. Tier one consisted of a survey administered to 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago Public School system. Using the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework as a conceptual framework (Appendix B), this survey asked the leaders questions about what CTE programs their schools offered students and how they provided these students rigorous, relevant, and equitable learning experiences that prepared them for college and career within these programs. In addition, the survey asked leaders if their schools were identified as professional learning community schools, as defined by DuFour, DuFour, and Eaker (2008).

After all of the tier one surveys were collected, compiled, and analyzed, 10 Career and Technical Education leaders, outside of Chicago Public Schools, whose schools met the identified criteria of providing a successful CTE program within professional learning community were identified. These leaders were asked to participate in a semi-structured interview, addressing questions about how the blended CTE teams within their schools
provided students rigorous, relevant, and equitable learning experiences that prepared them for college and career.

To obtain data necessary for this research, a comprehensive list of 605 Illinois high school leaders responsible for the Career and Technical Education program were identified using the Freedom of Information Act (FOIA) from the 58 Education for Employment Regional Delivery Directors (see Appendix K).

For a school to be eligible for this dissertation study, all three professional learning community criteria had to be met. Furthermore, indicators #3 and #5 and two out of three of the remaining Career and Technical Education program success indicators researched and defined by the researcher had to be met. The professional learning community criteria for the sample schools are:

1. Identify themselves as a professional learning community to their community.
2. Have collaboration time imbedded into the school year for at least two years.
3. Teacher teams have experience of collaboratively establishing yearly student-learning goals.
4. Responds, “yes” and provides evidence to Question #9, Are there data collected each year and used to evaluate and improve the Career and Technical Education program, of the Career and Technical Education Survey (see Appendix C).

The Career and Technical Education program success indicators for the sample schools were:
1. Offer no less than two Career and Technical Education courses with published standards and student learning targets that align to the Illinois Career Cluster model.

2. Career and Technical Education certified teachers
   a. Completion of state approved certificate preparation program or hold a comparable out-of-state certificate.
   b. Meet all coursework and testing requirements.

3. Consistent student enrollment for at least the past three years

4. Established partnerships with local businesses
   a. Serve as speakers, mentors, and/or on a curriculum advisory board.
   b. Provide shadowing, internship, and/or field trip opportunities for students.

5. Established dual or articulated credit with colleges and universities for at least one Career and Technical Education course.

**Data Collection Procedures**

*Pre-screening Tier 1 survey:* According to the Education Bug website, there are 759 public high schools in Illinois (2011). Six-hundred and five of these schools are comprehensive high schools. Using a pre-screening survey, the researcher canvased all of the public high school Career and Technical Education leaders, outside of the Chicago Public School system, responsible for the CTE program to ascertain that they met the identified criteria (see Appendix C).
Semi-structured interview: A sample of 10 Illinois public high school CTE leaders who completed the survey, fit the established criteria, and agreed to participate were interviewed. Using a semi-structured focused interview process, the researcher asked the Career and Technical Education leaders about the processes used, topics discussed, as well as his/her opinions and perceptions about leading Career and Technical Education blended teams within a professional learning community structure (see Appendix H). The researcher recorded the interviews with a voice-recording device and then transcribed them onto a Microsoft Word document.

Documentation: With permission from each CTE leader, the researcher collected examples of the CTE collaborative team meeting agendas and minutes. In addition, when offered by the CTE leader, the researcher obtained examples of the team norms, procedures, and student learning goals. These documents were used to support the information collected from the semi-structured interview of the CTE leader.

Physical Artifacts: When applicable, a few of the CTE leaders displayed artifacts that were created as a result of the work of a CTE curriculum team. During the interview, the researcher collected these artifacts.

The interview notes and audio recordings were used in conjunction with the documents and physical artifacts to identify themes of the blended CTE teams. These data from the interviews, documents, and artifacts were triangulated with the Conceptual Framework of Professional Learning Communities and the Tier 1 survey results of the six Illinois Career Cluster Model Principles for Local Implementation and Evaluation of Programs of Study (see Figure 1) to provide an understanding of how Illinois high school
Career and Technical Education leaders provide their students rigorous, relevant, and equitable learning experiences within a professional learning community.

**Figure 1. Triangulation of Data**

**Limitations**

There were two limitations to this study. The first limitation was the geographic area used for the sampling of this study was limited to the state of Illinois. Furthermore, after canvassing the entire state for public secondary high schools that have an established Career and Technical Education program and a culture of professionals working within professional learning communities, the sampling of school leaders who met the criteria and were willing to be interviewed centered in the top half region of the Illinois. To minimize this limitation, the researcher sent the pre-screening survey to all public high school leaders responsible for Career and Technical Education to collect information about how they implement their school’s CTE program and ask if their teachers collaborate within a professional learning community.
The second limitation for this dissertation was the researcher’s personal connection to this study. The researcher is an Illinois public school leader responsible for the Career and Technical Education program in a school with a strong professional learning community culture. To minimize bias and separate the researcher’s truth from the voices of the sample population, the researcher kept a journal, recording personal feelings and opinions. Furthermore, this journal served as a place to document any Career and Technical Education or Professional Learning Community work the researcher completed during the research timeframe that was not related to this study.

**Definition of Terms**

*ACT*: The ACT test assesses high school students’ general educational development and their ability to complete college-level work (http://www.act.org/aap/).

*AYP*: Adequate Yearly Progress. It represents the annual academic performance targets in reading and math that the State, school districts, and schools must reach to be considered on track for 100% proficiency by school year 2013-14 (http://www.isbe.net/ayp/).

*Area Career Center*: An extension site of public high schools that work in partnership with area business and industry to provide junior and senior students career and technical training skills needed to enter the workforce and post-secondary programs. Illinois has 24 area career centers.

*Blended Team*: A group of diverse professionals with a common purpose, appreciation, and understanding, who work collaboratively towards common student learning goals.
Career and Technical Education (CTE): Prepares both youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education – including industry-recognized credentials, postsecondary certificates, and two- and four-year degrees (www.acteonline.org).

Career and Technical Education Leader: A state certified administrator whom is an advocate for Career and Technical Education and guides curriculum, instruction, and assessment of CTE programs in schools.

Career Clusters: Groups of occupations and industries that have in common a set of foundational knowledge and skills. There are 16 nationally recognized clusters within which are multiple Career Pathways (Jankowski, 2008, p. 6).

Career Pathways: Multi-year programs of academic and technical study that prepare high school students for a full range of postsecondary options within each of the 16 clusters. These pathways provide a context for exploring career options at all levels of education and a framework for linking learning to the skills and knowledge needed for future education and employment (Jankowski, 2008, p. 6).

College and Career Ready: the level of preparation a student needs in order to enroll and succeed – without remediation – in a credit-bearing course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program, or in a high-quality certificate program that enables students to enter a career pathway with potential future advancement” (Conley, 2010, p. 19).

Employment Regional Delivery Systems: A regional delivery system Illinois designed to administer the efficient delivery of career and technical education to students
and young adults.

**EXPLORE program:** A nationally normed test taken by 8th or 9th grade students that tells them things they need to know – to plan your high school courses, prepare for the ACT, or choose a career direction (http://www.actstudent.org/explore/index.html).

**Interdisciplinary teams:** Found in middle schools and small high schools. These teams can be an effective structure if members work interdependently to achieve an overarching curricular goal that will result in higher levels of student learning (DuFour, DuFour, Eaker, & Many, 2010, p. 124).

**Logical links:** Put teachers together in teams that are pursuing outcomes linked to their areas of expertise (DuFour et al., 2010, p. 124).

**PLAN program:** The PLAN test measures academic progress in high school. It is designed to improve students' preparation for education, training, and work after high school while they still have time to adjust their high school courses. PLAN has content similar to the ACT® test (http://www.act.org/path/parent/tests/plan.html).

**Professional Learning Community:** Educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, DuFour, & Eaker, 2008, p. 14).

**Program of Study:** A sequence of courses that incorporate a non-duplicative progression of secondary and postsecondary elements which include both academic and career and technical education content. Programs of Study should start no later than the ninth grade and continue through at least two years of postsecondary education. Programs of Study include opportunities to earn college credit (dual credit) in high school, an
industry-recognized credential or certificate at the secondary/postsecondary level, and an associate or baccalaureate degree (Jankowski, 2008, p. 6)

**Relevance**: Learning in which students apply core knowledge, concepts, or skills to solve real-world problems (Rigor and Relevance, 2011).

**Rigor**: Learning in which students demonstrate a thorough, in-depth mastery of challenging tasks to develop cognitive skills through reflective thought, analysis, problem-solving, evaluation, or creativity (Rigor and Relevance, 2011)

**Singleton Teacher**: A single teacher teaching one course or a serious of courses alone during a school year.

**Vertical teams**: Link teachers with those who teach content above or below their students (DuFour et al., 2010, p. 124).

**Summary**

There is little doubt that providing a rigorous, relevant, and equitable Career and Technical Education learning experience to Illinois public high school students should be a priority. The question is, how are Illinois public high school Career and Technical Education leaders preparing all students for careers in the 21st century knowledge and skills based economy as defined by the Illinois Career Cluster model?

This chapter presented an introduction to the current study including; the purpose, significance, research questions, and definition of terms. The *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework was introduced and professional learning communities defined by DuFour, DuFour, and Eaker (2008) were identified as conceptual assumptions. Chapter II provides further
background to this study with related literature on Career and Technical Education, Illinois Programs of Study, professional learning communities, the Common Core State Standards Initiative, and college and career readiness skills.
CHAPTER II

LITERATURE REVIEW

Career and Technical Education

Career and Technical Education grew its roots in the early 1900’s when the United States transitioned from an agricultural to a manufacturing economy (Harris & Wakelyn, 2007). At that time, Career and Technical Education was known as Vocational Education. In 1917, The National Vocation Education (Smith-Hughes) Act was established to provide funding to prepare adolescents and adults for the world of work. This was the first federal funding of its kind for vocational education. This act stated,

> An act to provide for the promotion of vocational education; to provide for cooperation with the States in the promotion of such education in agriculture and the trades and industries; to provide for cooperation with the States in the preparation of teachers of vocational subjects; and to appropriate money and regulate its expenditure. (National Vocational Education (Smith-Hughes) Act. Public Law No. 347, Sixty-fourth Congress-S. 703. SEC. I, 2012)

According to Howard Gordon (2008), “At this time only one out of 30 adults had a bachelor’s degree or high educational level,” leaving the rest of the United States’ population in need of vocational skills (p. 14).

As the United States economy continued to transition, so did vocational education.
The Vocational Education Act of 1963 (PL 88-210) was a major act in Career and Technical Education history, replacing the Smith-Hughes Act of 1917. This act changed the focus of vocational education from training for specific vocations like agriculture, home economics, and nursing to preparing all students for employment, regardless of vocation. Furthermore, this act assisted those students who had a difficult time gaining employment due to academic or financial reasons (Wolfe, 1978).

In the 1984, the Vocational Education Act was amended and renamed after Carl D. Perkins, a Democrat from Kentucky who served in the States House of Representatives and who strongly supported programs that educated the under privileged. The Carl D. Perkins Act (PL 98-524) was designed to provide vocational education access to all students, including those with special needs.

In the 1990’s, it was recognized that the United States was falling behind other nations in competing in the world economic market. As a result, the Carl D. Perkins Act of 1990 and the Amendments of 1998 were established. This act defined vocational and technical education as,

Organized educational activities that - (A) offer a sequence of courses that provides individuals with the academic and technical knowledge and skills the individuals need to prepare for further education and for careers (other than careers requiring a baccalaureate, master’s, or doctoral degree) in current or emerging employment sectors; and (B) include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general
employability skills, technical skills, and specific skills, of an individual.

(Public Law 105-332)

In an effort to strengthen the United States workforce, this act was instated to build a better relationship between secondary, post-secondary, and the world of work. The primary goal was to focus resources to: 1) develop more rigorous academic standards, integrate academic, vocational, and technical instruction; 2) promote articulation between secondary and post-secondary institutions; 3) improve state services such as Tech-Prep, distribute national research; and, 4) provide professional development to improve vocational and technical education programs.

The 2006 reauthorization of the Carl D. Perkins Career and Technical Education Improvement Act (Perkins IV) may be one of the most pivotal acts for vocational education. Not only did this act rename vocational education to Career and Technical Education, it made explicit the need to prepare students for both work and for further education (Gordon, 2008). This act required states to offer programs that “comprise academic, career, and technical content that prepares students to make successful transitions to postsecondary education and the workplace” (Perkins Collaborative Resource Network, 2012).

To meet the requirements of the 2006 Carl D. Perkins Act, each state revised their career and technical program to include one or more of the 16 designated career cluster. A Career Cluster is described as a, “Groups of occupations and industries that have in common a set of foundational knowledge and skills. There are 16 nationally recognized
clusters within which are multiple Career Pathways” (Jankowski, 2008, p. 6). The 16 career clusters are:

- Agriculture, Food, and Natural Resources
- Architecture and Construction
- Arts, A/V and Communications
- Business, Management, and Administration
- Education and Training
- Finance
- Government and Public Administration
- Health Science
- Hospitality and Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections, and Security
- Manufacturing
- Marketing, Sales, and Service
- Science, Technology, Engineering, and Mathematics
- Transportation, Distribution and Logistics

Each career cluster has a designed Career Pathway that provides students a multi-year program of academic and technical skills that, “provide a context for exploring career options at all levels of education and a framework for linking learning to the skills and knowledge needed for future education and employment” (Jankowski, 2008, p. 6).
Within each career pathway, there is a Program of Study that lists a sequence of courses, both academic and career, students should take, “no later than 9th grade and continue through at least two years of postsecondary education” (Jankowski, p. 6). An example of the Health Science career cluster is illustrated in Figure 2.


Figure 2. Health Science Career Cluster Example

To continue to enhance career opportunities for students in Illinois, in June of 2009 the Illinois Community College Board and the Illinois State Board of Education formed a partnership and adopted the States Career Cluster Framework that included the
sixteen career clusters stated above. The *Illinois Career and Technical Education Program of Study* framework was designed to, “allow students to get more involved and perform better in school by combining rigorous academics with career education so that students have a clear path to their future” (Jankowski, 2008, p. 7). Within this framework, the 16 career clusters were designed to align the development of students’ academic, career, and technical skills as they transition from secondary to post-secondary to successful career. Seven of the 16 clusters have been implemented in Illinois: Agriculture, Food and Natural Resources; Arts, A/V Technology and Communications; Health Science; Hospitality and Tourism; Information Technology; Manufacturing and Transportation, Distribution and Logistics (Jankowski et al., 2009).

Since the 2008 introduction to the Career and Technical Education Programs of Study and the 2009 adoption of the Career Cluster framework, it has been the expectation that all Illinois public high schools, regardless of size, location, and resources, prepare their students for college and career. The Illinois Community College Board and Illinois State Board of Education developed a framework to assist Career and Technical Education leaders in the implementation and evaluation of the program of studies they provide students in their schools. Each of the principles has a set of design elements that guide CTE leaders in the assessment of their programs. This framework consists of six guiding principles. The principles are represented in Table 2.
Table 2

_Illinois Career Cluster Model Framework_ for Local Implementation and Evaluation of Programs of Study

<table>
<thead>
<tr>
<th>Principle</th>
<th>Principle Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leadership, organization and support</td>
<td>Programs of study are developed, supported and let with guidance from collaborative partnerships.</td>
</tr>
<tr>
<td>2. Access, equity and opportunity</td>
<td>Each and every student has access to educational opportunities and services that enable their success.</td>
</tr>
<tr>
<td>3. Alignment and transition</td>
<td>Education and training providers, with input from business and industry, enhance alignment that facilitates student preparation and transition through the educational pipeline.</td>
</tr>
<tr>
<td>4. Enhances curriculum and instruction</td>
<td>Curriculum and pedagogy involve rigorous and relevant instruction that enhances learning enables students to attain academic and technical standards and credentials.</td>
</tr>
<tr>
<td>5. Professional preparation and development</td>
<td>Comprehensive and continuous professional development that impacts teaching and learning is delivered to enhance the recruitment, preparation, and retention of qualified instructional and administrative staff.</td>
</tr>
<tr>
<td>6. Program improvement and accountability</td>
<td>Data are collected, shared, and utilized to improve outcomes and demonstrate accountability.</td>
</tr>
</tbody>
</table>


**College and Career Readiness**

In the 2010 reauthorization of the _Elementary and Secondary Education Act_ named “A Blueprint for Reform,” President Obama stated, “We must ensure that every student graduates from high school well prepared for college and a career” (p. 1). This act builds on the 2009 American Recovery and Reinvestment Act by re-focusing five areas: 1) College and career-ready students; 2) Great teachers and leaders in every school; 3)
Equity and opportunity for all students; 4) Raise the bar and reward excellence; and, 5) Promote innovation and continuous improvement. There are a number of definitions for College and Career Ready. This research will use the description defined by author David Conley in his 2010 book, College and Career Ready: Helping All Students Succeed Beyond High School. He defines college and career readiness as, “the level of preparation a student needs in order to enroll and succeed – without remediation – in a credit-bearing course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program, or in a high-quality certificate program that enables students to enter a career pathway with potential future advancement” (Conley, 2010, p. 19).

Within the first area of the Elementary and Secondary Education Act, College and Career Ready Student (2010), standards for all students will be raised, better assessments will be developed to align with college and career ready standards, and a focus will be put on providing students a complete education that is rigorous and equitable. As stated in this act, “Every student should graduate from high school ready for college and a career, regardless of their income, race, ethnic or language background, or disability status” (p. 3).

In 2009, governors and state commissioners of education formed a committee called the Common Core State Standards Initiative (CCSSI). In an effort to ensure all students in all states are provided the same rigorous standards of education that competes globally, this group developed a set of national education learning standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects
and for Mathematics (Kendall, 2011). Since the unveiling in 2010, 48 states, two territories, and the District of Columbia have committed to these national standards. The Common Core State Standards Initiative mission is to

provide a consistent, clear understanding of what students are expected to
learn, so teachers and parents know what they need to do to help them.

The standards are designed to be robust and relevant to the real world,
reflecting the knowledge and skills that our young people need for success
in college and careers. With American students fully prepared for the
future, our communities will be best positioned to compete successfully in
the global economy. (Common Core state Standards Initiative, 2011)

Although the Common Core Standards Initiative addresses reading, writing, and
mathematics, and has plans to write standards for science and social studies, it has yet to
address the “careers” portion of the mission. The CCSSI committee describes college and
career readiness as the ability “to succeed in entry-level, credit-bearing academic college
courses and in workforce-training programs” (Common Core State Standards Initiative
FAQ, 2011). However, nowhere in the standards are employability or career specific
skills. Therefore, for students to have a comprehensive learning experience in public high
schools that prepare them for both college and career, the programs of study provided by
Career and Technical Education need to be provided.

In 2002, a number of years before the call to action from the Elementary and
Secondary Education Act and the development of the Common Core standards, the
United States Department of Education and a host of corporations formed an organization
called the *Partnership for 21st Century Skills*. This partnership was designed to, “serve as a catalyst to position 21st century readiness at the center of US K12 education by building collaborative partnerships among education, business, community and government leaders” (Partnership for 21st Century Skills, 2012). It identified four key elements for 21st century teaching and learning that prepares students for college and career. The 21st Century Learning framework, “describes the skills, knowledge and expertise students must master to succeed in work and life; it is a blend of content knowledge, specific skills, expertise and literacies” (Partnership for 21st Century Skills, 2012). Figure 3 illustrates the four key elements: 1) Core subjects and 21st century themes; 2) Learning and innovation skills; 3) Information, media, and technology skills; and, 4) Life and career skills.


*Figure 3.* Partnership for 21st Century Skills Framework
As described by the Partnership for 21st Century Skills, for students to be successful in the 21st century they must have a solid background in the Core Subjects and 21st Century Themes. The core subjects identified by this organization are: English, reading, language arts, world languages, arts, mathematics, economics, science geography, history, government, and civics. However as stated above, learning the core subjects alone is not enough for students to be college and career ready in the 21st century. They must also have learning and innovation skills such as: creativity and innovation, critical thinking and problem solving skills, and communication and collaboration skills. Furthermore, “to be effective in the 21st century, citizens and workers must be able to exhibit a range of functional and critical thinking skills related to information, media and technology,” as well as life and career skills (Partnership for 21st Century Skills, 2012).

Heidi Hayes Jacobs (2010) reinforces the research of the Partnership for 21st Century Skills organization in her book, Curriculum 21 Essential Education for a Changing World by stating, “If educators work only with the general skills and do not revise and focus them, it is difficult to apply them to real-world practice” (p. 27). Jacobs goes on to write, “To make the 21st century skills meaningful to specific learners, the key is to translate them into highly discrete classroom applications connected to the assessment types and to the curriculum content” (p. 28).

The International Center for Leadership in Education (2011) defines rigor as, “learning in which students demonstrate a thorough, in-depth mastery of challenging tasks to develop cognitive skills through reflective thought, analysis, problem-solving,
evaluation, or creativity.” The center defines relevance as, “Learning in which students apply core knowledge, concepts, or skills to solve real-world problems” (International Center for Leadership in Education, 2011). Although Career and Technical Education curricula is not directly addressed within the Common Core standards, nor specifically mentioned in the Elementary and Secondary Education Act or the Partnership for 21st Century Skills framework, the programs within it are designed to provide relevance to the core content areas by requiring students to apply and adapt their mathematics, reading, and writing knowledge to rigorous real world scenarios and projects. Additionally, CTE curriculum provides the career and technical skills students need to successfully transition to postsecondary education and the workplace. As stated by the Association for Career and Technical Education,

Today’s CTE provides students:

• academic subject matter taught with relevance to the real world
• employability skills, from job-related skills to workplace ethics
• career pathways that link secondary and postsecondary education
• second-chance education and training
• education for additional training and degrees, especially related to workplace training, skills upgrades, and career advancement. (Association for Career and Technical Education, 2011)

There are over 750 public high schools in Illinois. Within these schools, approximately 52% of students take a Career and Technical Education course annually (Illinois State Board of Education, Career and Technical Education in Illinois 2010,
It is the responsibility of the CTE leader to ensure the Career and Technical Education programs within these public high schools provide all students rigorous, relevant, and equitable learning experiences that prepare them for college and career. However, as represented in Principle #1, “Leadership, Organization and Support” of the Illinois Career Cluster Model Framework for Local Implementation and Evaluation of Programs of Study, the CTE leader cannot accomplish this monumental task alone. It takes a collaborative group of professionals, including: administrators, teachers (core and CTE), post-secondary educators, and industry partners to provide all students with a comprehensive high school education that prepares them for college and career.

**Professional Learning Communities**

The term Professional Learning Community (PLC) can be traced to the late 1960's when researchers began offering the concept as an alternative to the current model of teacher isolation observed throughout public schools. The first study conducted of 78 schools by Susan Rosenholtz (1989a) found "learning-enriched" schools were characterized by collective commitments to teachers’ goal setting and learning in collaborative settings. Furthermore, in their 1995 research, *Successful School Restructuring*, Fred Newmann and Gary Wehlage found that the successful schools were the ones whom functions as professional communities. These schools enabled faculty to find their shared purpose of student learning and provided opportunities for them to address that purpose together.

For the past few decades the professional learning community (PLC) initiative has become widespread across the nation and moved from theoretical to practical. One of the
greatest influences to bring this concept to the forefront was Dr. Richard DuFour. Dr. DuFour, formerly principal and superintendent of Adlai E. Stevenson High School in Lincolnshire, Illinois implemented his concept of teacher led teams or PLC’s in one of the largest high school environments in Illinois. DuFour (2008) captured his most recent work with Rebecca DuFour and Robert Eaker in the book, *Revisiting Professional Learning Communities at Work: New Insights for Improving Schools*, suggesting that teacher teams working together in a collaborative environment hold the power to improve student achievement. According to DuFour, DuFour, and Eaker schools cannot continuously improve if the stakeholders do not “work collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve” (p. 14). They believe highly effective teams must share the following characteristics:

1. Shared mission, vision, values, goals
2. Collaborative teams focused on learning
3. Collective inquiry
4. Action orientation and experimentation
5. Commitment to Continuous improvement
6. Results orientation

DuFour, DuFour, and Eaker’s (2008) work has arguably changed the face of how educational leaders address the challenges of student learning through the work of professional learning communities. However, within their publications there is little research that addresses teachers working within collaborative team in non-traditional
programs – like Career and Technical Education. Not all schools have multiple teachers teaching the same Career and Technical Education courses where they are able to share curricula and reflect on common student data. In their handbook, Learning by Doing, DuFour et al. (2010) propose alternative collaborative structures such as vertical and interdisciplinary teams as possible approaches for schools with singleton teachers. Furthermore, they suggest a possible “logical link” team that a specialist teacher (physical education, music, special education teacher) could join, “that are pursuing outcomes linked to their areas of expertise” (p. 123).

Although, DuFour et al. (2010) provide some guidance to educational leaders of middle schools and small high schools about purposefully establishing teams, they do not provide much guidance for the unique collaborative needs of teams, such as Career and Technical Education teams, that may have vertical, interdisciplinary, and logical link members that could include secondary and post-secondary educators, as well as local business partners. Therefore, for the purpose of this study this researcher proposes an “outside of the box” approach to professional learning teams called blended teams. Blended teams are a group of diverse professionals with a common purpose, appreciation, and understanding, who work collaboratively towards common student learning goals. Since not all high school Career and Technical Education programs in Illinois, nor across the nation, have multiple teachers teaching the same courses within the same building, the collaborative work of this blended team structure is an important component in developing and implementing programs of study that prepare students for college and career. Although the members of blended teams do not always teach the same
curriculum, or possibly teach at all, they can exemplify the six characteristics of being highly effective: 1) Shared mission, vision, values, goals; 2) Collaborative teams focused on learning; 3) Collective inquiry; 4) Action orientation and experimentation; 5) Commitment to continuous improvement; and, 6) Results orientation.

**Shared Mission, Vision, Values, Goals**

Having shared mission, vision, values, and goals is at the heart of all professional learning communities. As stated by DuFour, DuFour, and Eaker (2008), “the members of a PLC create and are guided by a clear and compelling vision of what their schools and districts must become to help all students learn” (p. 15). Hord (1997) supports this notion by writing, “Sharing vision is not just agreeing with a good idea; it is a particular mental image of what is important to an individual and to an organization” (p. 19). Although Career and Technical Education leaders should have a clear vision of how their programs will ensure all students receive rigorous, relevant, and equitable learning experiences that prepare them for college and career, it is not the leader alone whom should establish the mission and create the path to success. The ownership and responsibility of the educational success of students belongs to all members of the organization. For example, the daily work of all members of a Career and Technical Education collaborative team, such as a Family and Consumer Sciences blended team, should be guided by their shared mission, “to prepare students for family life, work life, and careers in Family and Consumer Sciences Education” (National Association of State Administrators of Family and Consumer Sciences, 2012). This shared commitment should be aligned to the school and district’s mission for educating students. DuFour, DuFour, and Eaker (2008)
reinforce this belief by stating, “This foundation of shared mission, vision, values, and goals not only address how educators will work to improve their schools, but also reinforces the moral purpose and collective responsibility that clarify why their day-to-day work is so important” (p. 15).

**Collaborative Teams Focused on Learning**

DuFour, DuFour, and Eaker (2008) describe a professional learning community as being, “composed of collaborative teams whose members work interdependently to achieve common goals – goals linked to the purpose of learning for all – for which members are held mutually accountable” (p. 15). Although there is an increased amount of research to support this claim, such as Peter Senge’s (2010) belief that the “intelligence of a team exceeds the intelligence of the individual in the team,” many teachers in many schools are still working in isolation (p. 9). Collaborative teams focused on learning are not seen in many educational institutions as a valuable tool for student learning. However, Susan Rosenholtz (1989b) illustrates the power of collaborative teams by describing when teachers work collaboratively, programs are not duplicated, experiments that did not work in one classroom are not doomed to fail in another, and successes discovered can be duplicated, adapted, and celebrated with teammates. Collaborative teams improve individual teacher instructional practices and foster a common vision for the curriculum and for the school. Judith Little’s reflects in her 1990 review of literature that teachers who were motivated to participate in “joint work” felt that they required the contributions of their teammates in order to succeed in their own work (p. 520). She learned that there are many benefits from teacher collaboration, such
as: student achievement, teacher morale, support for innovation, and ease of transition for a beginning teacher.

**Collective Inquiry**

DuFour, DuFour, and Eaker (2008) believe when educators engage in collective inquiry, they are sharing and reflecting on best practices of curriculum, instruction, and assessment, thus allowing them to make better decisions about student learning. Peter Senge (2006) supports this notion by stating, “When teams are truly learning, not only are they producing extraordinary results, but the individual members are growing more rapidly than could have occurred otherwise” (p. 9). This claim is also support by Susan Rosenholtz’s research on learning-enriched schools. In her research, Rosenholtz (1989a) states, “In learning-enriched settings, an abundant spirit of continuous improvement seemed to hover school wide, because no one ever stopped learning to teach” (p. 208). The process of continuous improvement and collective inquire allows team members to learn new content and pedagogical knowledge, thus improving the learning of their students.

**Action Orientation and Experimentation**

Learning by doing is a staple of Career and Technical Education. As described by the Association for Career and Technical Education, curricula within these programs provide real world context for students to apply their academic subject knowledge (Association for Career and Technical Education, 2011). As it is believed that students learn best by experimenting with and applying their core content knowledge, learning by doing is also valuable to the continuous learning of educators. DuFour, DuFour, and
Eaker (2008) state, “They [members of a PLC] understand that the most powerful learning always occurs in a context of taking action, and they value engagement and experience as the most effective teachers” (p. 16).

**Commitment to Continuous Improvement**

Teams working within a professional learning community are committed to continuous improvement by seeking to improve student learning, as well as improve their own professional craft. Through job-embedding collective inquire, teams collect student data, identify gaps in student learning, and set goals, develop action steps to address those gaps, and reflect on data. Author, Jim Collins (2006) names the process of continuous improvement, the *Flywheel Effect* (p. 174). DuFour, DuFour, Eaker (2008) state:

The goal is not simply learning a new strategy, but rather creating conditions for perpetual learning. This creates an environment in which innovation and experimentation are viewed not as tasks to be accomplished or projects to be completed, but as ways of conducting day-to-day business – forever. (p. 17)

A commitment to continuous improvement in Career and Technical Education is reflected in Principle #5: *Professional Preparation and Development* of Illinois Career Cluster Model framework. This principle is defined as, “Comprehensive and continuous professional development that impacts teaching and learning is delivered to enhance the recruitment, preparation, and retention of qualified instructional and administrative staff” (Jankowski et al., 2009, p. 14). Within this principle, professional development is focused on classroom instruction and improving student learning, as well as identifying
opportunities for secondary and post-secondary educators to work together to align curriculum.

**Results Orientation**

Teams operating within a professional learning community understand that all of their work “must be assessed on the basis of results rather than intentions” (DuFour, DuFour, & Eaker, 2008, p. 17). Being results oriented is an important component of the work of a collaborative team. In order for their students to learn, teams need to administer common formative and summative assessments, and collect and reflect on student learning data. The results from these data serve as catalyst for revisions of curriculum, instruction, or assessment that address the gaps in student learning. A commitment to making decision based on data rather than assumptions in Career and Technical Education is reflected in Principle #6: *Program improvement and accountability of Illinois Career Cluster Model framework*. This principle is defined as, “Data are collected, shared, and utilized to improve outcomes and demonstrate accountability” (p. 29). Within this principle, the CTE teams use data to plan and implement curriculum, identify trends, and assess student learning (Jankowski et al., 2009).

**Summary**

“I hear and I forget. I see and I remember. I do and I understand” (*Confucius*, *551-479BC*). This quote illustrates the heart of Career and Technical Education. Since the 1917 National Vocation Education (Smith-Hughes) Act was established, Career and Technical Education has developed into a rigorous and relevant course of study that challenges students to apply and adapt their content knowledge in real world settings.
Students are more likely to learn English, mathematics, and science, as well as be more invested in their school, if they are able to connect their learning to information that they know and are interested in (Gordon, 2008). Yet, of all of the educational fields, Career and Technical Education has been studied the least. In fact, in many academic arenas Career and Technical Education is seen as less important than other subjects (Gordon, 2008).

The national government and the state of Illinois have mandated that public high schools prepare students for college and career. Other government organizations like the Partnership for 21st Century Learning Skills confirm this need. The goal of the Career Cluster Model framework is “to prepare students to transition successfully from high school to postsecondary education and employment in a career area” (Federal Register, 2000, p. 76524). With over 90% of all public school students nationwide taking at least one Career and Technical Education course during their four years of high school (IES National Center for Education Statistics 1990 to 2005) and approximately 52% of Illinois high school students taking a CTE course annually (Illinois State Board of Education, 2011), it is important to study how Illinois high schools foster strong CTE programs. If Career and Technical Education programs deliver rigorous and relevant curriculum that teaches career and technical content, while providing opportunities for all students to apply their core content knowledge, then the public high schools that house these programs will be successful in transitioning all students to postsecondary education and the workplace.
CHAPTER III
RESEARCH METHODOLOGY

Introduction

The purpose of this dissertation study was to examine how Illinois public education high school Career and Technical Education educational leaders employed best practices in providing all students rigorous, relevant, and equitable learning experiences within a professional learning community structure. The purpose of this chapter is to describe the methodology that will be used to collect and analyze these research data.

Research Questions

1. According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework? If not, what courses are they providing students?

2. According to the perceptions of Career and Technical Education leaders, how are they using the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework to develop and continually improve CTE programs in their schools?

3. According to the perceptions of Career and Technical Education leaders, how are they implementing professional learning communities to continually
improve Career and Technical Education learning experiences for all students?

4. What are the perceptions of the current Career and Technical Education leaders concerning the importance of CTE programs for students and in their schools?

5. What are the implications of this research for educational leaders?

**Research Methodology and Design**

For this dissertation study, the methodology used was a case study with multiple data sources. The study used a mixed-method approach utilizing a two tiered procedure beginning with a quantitative method survey to obtain statistical data from a large sample of Illinois public high school Career and Technical Education leaders, followed by a qualitative method to explore 10 individual cases. This study applied the epistemological framework connected with qualitative research to document the CTE leaders’ perceptions of leading blended teams in professional learning community schools. Epistemology is, “the study of the nature of knowledge and justification” arguing that “knowledge is derived from sense experience” (Schwandt, 2007, p. 87).

Knowing that all research methods have weaknesses, the purpose for using a mix methods approach for this study was to increase the validity and reduce bias. As Creswell (2003) states,

a mixed methods approach is one in which the researcher tends to base knowledge claims on pragmatic grounds (e.g., consequence-oriented, problem-centered, and pluralistic). It employs strategies of inquiry that
involve collecting data either simultaneously or sequentially to best understand research problems. The data collection also involves gathering both numeric information (e.g., on instrument(s) as well as text information (e.g., on interviews) so that the final database represents both quantitative and qualitative information. (p. 18)

Creswell (2003) also emphasizes, “To include only quantitative and qualitative methods falls short of the major approaches being used today in the social and human sciences” (p. 19).

To gather the statistical data for tier one of this research, a survey was administered to 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago Public School system. As defined by Creswell (2003), “A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population” (p. 153). Using the Illinois Career Cluster Framework for Local Implementation and Evaluation of Programs of Study (see Appendix B) as a guiding framework this survey (see Appendix C) asked the Career and Technical Education leaders to list the CTE programs their schools offer students and asked questions about how they provide these students with rigorous, relevant, and equitable learning experiences that prepare them for college and career within these programs. In addition, the survey asked leaders if their schools are identified as Professional Learning Community schools as defined by DuFour et al. (2010) and by DuFour, DuFour, and Eaker (2008).
To obtain these data necessary for this research, a comprehensive list of all Illinois high school leaders responsible for the Career and Technical Education program was identified using the Freedom of Information Act (FOIA) from the 58 Education for Employment Regional Delivery Directors (see Appendix J).

Although quantitative research provides numeric data to specific research questions, this form of research has the potential of lacking the reason or, “story,” that can sometimes answer the always present why and how questions. Qualitative data is an important component to the world of research because it can provide possible reasons to those “why” questions. “To call a research activity qualitative inquiry, may broadly mean that it aims at understanding the meaning of human action” (Schwandt, 2007, p. 248). It provides a human element to the numeric data, gives voice to the unheard voices, and tells life stories.

Tier two of this study consisted of a semi-structured interview case study of 10 Career and Technical Education leaders, outside of Chicago Public Schools, whose schools meet the identified criteria of providing a successful CTE program within a professional learning community. As defined by Stakes (1995), “Case study is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances” (p. xi). For this research, “The case is a specific, complex, functional thing” (p. 2). It is a bounded system connected to a thing, not a process. It was an integrated system. This semi-structured interview of CTE leaders (see Appendix H) investigated how the integrated system of blended CTE teams within
professional learning community schools provided students rigorous, relevant, and equitable learning experiences that prepared them for college and career.

**Sample Participants**

For a school to be eligible for this dissertation study, all three professional learning community criteria had to be met (DuFour, DuFour, & Eaker, 2008). Furthermore, indicators #3 and #5, and two out of three of the remaining Career and Technical Education program success indicators researched as defined by the researcher had to be met. The professional learning community criteria for the sample schools are:

1. Identify themselves as a professional learning community to their community.
2. Have collaboration time imbedded into the school year for at least two years.
3. Teacher teams have experience of collaboratively establishing yearly student-learning goals.
4. Responds, “yes” and provides evidence to Question #9, *Are there data collected each year and used to evaluate and improve the Career and Technical Education program*, of the Career and Technical Education Survey (see Appendix C).

The Career and Technical Education program success indicators for the sample schools are:

1. Offer no less than two of Career and Technical Education courses with published standards and student learning targets that align to the Illinois Career Cluster model.
2. Career and Technical Education certified teachers
a. Completion of state approved certificate preparation program or hold a comparable out-of-state certificate.

b. Meet all coursework and testing requirements.


3. Consistent student enrollment for at least the past three years

4. Established partnerships with local businesses
   a. Serve as speakers, mentors, and/or on a curriculum advisory board
   b. Provide shadowing, internship, and/or field trip opportunities for students.

5. Established dual or articulated credit with colleges and universities for at least one Career and Technical Education course.

**Data Collection Methods**

Using a survey (see Appendix C), the researcher canvased 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago Public School system, to ask a series of nine questions based off of the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework (see Appendix B) created by the Office of Community College Research and Leadership and three questions about their school’s adoption of a professional learning community collaborative framework. Accompanying the survey was a *Request to Participate in Research* letter describing the purpose of the survey and an assurance of participant confidentiality (see Appendix D). The survey and request to participate letter was mailed to each CTE leaders’ district address. Included with these documents was a self-
addressed stamped envelope with a return P.O. Box address. Two weeks following the initial survey participation request, a reminder post card was sent (see Appendix E).

Following the macro level analysis of the themes related to the six principles of the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework and the professional learning community framework, 10 schools that met the sample criteria was identified and contacted by telephone (see Appendix G). A meeting time and location was scheduled at the convenience of each participant. Using a semi-structured focused interview process, the researcher asked the Career and Technical Education leaders about the processes used, topics discussed, as well as his/her opinions and perceptions about leading blended Career and Technical Education teacher teams within a professional learning community framework (see Appendix H). The interview questions were categorized by the six *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework principles and the Professional Learning Community characteristics. A semi-structured interview is defined as, “an interview with the purpose of obtaining descriptions of the life world of the interviewee in order to interpret the meaning of the described phenomena” (Kvale & Brinkmann, 2009, p. 3). The structure of the interview will provide the means to “understand themes of the lived daily world from the subjects’ own perspectives” (p. 24).

Prior to the interview, the interview questions and a *Letter of Cooperation* (see Appendix F) was mailed to the participants with a self-addressed stamped envelope for the return of the signed letter agreeing to participate in the interview. The participant was also provided a copy of the questions on the day of the interview.
On the day of the interview, this researcher completed four steps. First, described to the participants the purpose and procedures of the study. Second, informed them about any possible risks involved and obtain their informed consent using the Consent to Participate in Research form (see Appendix H). Third, this researcher informed the participants that their names will not be shared and their school’s identity will not be revealed. Fourth, this researcher told the participants that all findings will be shared with them at the conclusion of the study. This researcher recorded the interviews with a voice-recording device. Someone outside of the context of this study transcribed the recordings onto a Microsoft Word document. This person signed a confidentiality agreement (see Appendix L).

In addition to collecting data from the semi-structured interviews, when offered by participants, this researcher collected examples of the CTE collaborative team meeting agendas and minutes. Also, when offered by the participants, this researcher obtained examples of the team norms, procedures, and student learning goals. It was the hope of this researcher that the CTE leaders would share artifacts that have been created as a result of the work of a blended CTE team. Possible artifacts could have been common assessment rubrics and student expectation protocols. During the interview, this researcher inquired about these artifacts. Only one leader was able to produce these data.

As Stakes (1995) states, “For data source triangulation, we look to see if the phenomenon or case remains the same at other times, in other spaces, or as persons interact differently” (p. 112). In an effort to triangulate the data collected and analyze, this researcher used the interview transcripts and notes in conjunction with documents
and physical artifacts to identify themes of the blended CTE teams. These data from the interviews, documents, and artifacts triangulated with the Illinois Career Cluster Model and conceptual framework (see Figure 4) to provide an understanding of how Illinois high school Career and Technical Education leaders provide their students rigorous, relevant, and equitable learning experiences within a professional learning community.

Figure 4. Triangulation of Data

**Procedures for Data Analysis**

Tier one of this sequential mixed-method study was a quantitative survey. To analyze the data collected from this macro level survey, the following procedures were completed:

1. Recorded the number of respondents and no respondents of the survey.
2. Totaed the “Yes or No” responses and tracked common phrases and comments in an Excel spreadsheet to provide descriptive statistics of relevant categories.
3. Coded for emerging themes as they related to the six principles of the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework (2008) which are:

   a. Leadership, organization and support
   b. Access, equity and opportunity
   c. Alignment and transition
   d. Enhanced curriculum and instruction
   e. Professional preparation and development
   f. Program improvement and accountability

4. Matched the themes to Career and Technical Education program success indicators which are:

   a. Offer a variety of Career and Technical Education courses with published standards and student learning targets that align to the Illinois Career Cluster model.
   b. Career and Technical Education certified teachers.
      i. Completion of state approved certificate preparation program or hold a comparable out-of-state certificate.
      ii. Meet all coursework and testing requirements.
      iii. Meet all other requirements detailed in Illinois statute and rules (www.isbe.net).
   c. Consistent student enrollment for at least the past three years.
   d. Established partnerships with local businesses.
i. Serve as speakers, mentors, and/or on a curriculum advisory board.

ii. Provide shadowing, internship, and/or field trip opportunities for students.

e. Established dual or articulated credit with colleges and universities for at least one Career and Technical Education course.

5. Identified 10 Career and Technical Education leaders whose schools meet all three professional learning community criteria which are:

a. Identify themselves as a professional learning community to their community.

b. Have collaboration time imbedded into the school year for at least two years.

c. Teacher teams have experience of collaboratively establishing yearly student learning goals.

Tier two of this sequential mixed-method study was interviews of 10 Career and Technical Education leaders. To analyze these data collected from the semi-structured focused interviews, the following procedures were completed:

1. The audio-recordings of each interview were transcribed (Appendix L).

2. Common phrases and comments from the transcripts were tracked using an Excel spreadsheet to provide descriptive data of relevant categories.

3. Coded for common themes as they related to the six principles of the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework (2008) which are:
a. Leadership, organization and support
b. Access, equity and opportunity
c. Alignment and transition
d. Enhanced curriculum and instruction
e. Professional preparation and development
f. Program improvement and accountability

4. Shared each interview transcript with the interviewee to validate that their ideas and comments correctly representing them. Kvale and Brinkmann (2009) describe this as “member validation” in their second edition of *Interviews*. Member validation is described as, “The researcher’s interpretations presented to the subjects of an inquiry for discussion of their validity” (p. 325).

5. Analyzed the CTE collaborative team meeting agendas and minutes, team norms and procedures, and student learning goals using the conceptual framework of Professional Learning Communities and the Illinois Career Cluster Model Local Implementation and Evaluation of Program of Study framework.

6. Analyzed the data collected from the interview using the conceptual framework of Professional Learning Communities and the Illinois Career Cluster Model Local Implementation and Evaluation of Program of Study framework.
Limitations and Bias

There are two limitations to this study. The first limitation was the geographic area used for the sampling of this study was limited to the state of Illinois. Furthermore, after canvassing the entire state for public secondary high schools that have an established Career and Technical Education program and a culture of professionals working within professional learning communities, the sampling of school leaders who met the criteria and were willing to be interviewed centered in the top half region of the Illinois. To minimize this limitation, the researcher sent the pre-screening survey to all public high school leaders responsible for Career and Technical Education to collect information about how they implement their school’s CTE program and ask if their teachers collaborate within a professional learning community.

The second limitation for this dissertation was the researcher’s personal connection to this study. The researcher is an Illinois public school leader responsible for the Career and Technical Education program in a school with a strong professional learning community culture. To minimize bias and separate the researcher’s truth from the voices of the sample population, the researcher kept a journal, recording personal feelings and opinions. Furthermore, this journal served as a place to document any Career and Technical Education or Professional Learning Community work the researcher completed during the research timeframe that was not related to this study.
Ethical Considerations

Tier one of this sequential mixed-method study will be a quantitative survey. Participation in this study was completely voluntary. The data collected from this macro level survey of 605 Illinois public high schools were coded for emerging themes as they related to the six principles of the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework (2008). A number was assigned to each survey to prevent any identifiable date of person or school to be revealed in the dissertation study. A master list linking participants’ names with an identification number was stored in a locked file separate from the survey data and only seen by the researcher. This information was destroyed at the conclusion of the study.

Tier two of this sequential mixed-method study was interviews of 10 Career and Technical Education leaders. There were no foreseeable risks involved in participating in this research beyond those experienced in everyday life. To ensure anonymity, pseudonyms were used in lieu of actual names to prevent participants’ identities from being revealed when developing the dissertation study. The pseudonyms were link to the aforementioned assigned survey numbers. This information was destroyed at the conclusion of the study.

The researcher was cognizant of participants’ time and scheduled a meeting convenient to them. The interview questions were carefully scripted to honor the beliefs and perceptions of the participants allowing each voice to be heard. Furthermore, the interview protocol provided an opportunity for the participants to reflect on their own leadership practices.
Research notes and any documents collected were stored and made available only to the researcher. When not in use, paper notes and documents were secured in a locked cabinet and digital files were password protected on the local hard drive of a computer. Upon completion of the research, all paper notes and documents were destroyed and digital files were password protected and archived only for the eyes of the researcher. Although only the researcher had access to notes and collected documents, other people within the participants’ school environment may have been aware of them being interviewed as part of this research assignment. The researcher did not share the contents of the interview with anyone from the participants’ schools or districts.

Summary

This chapter presented a description of the methodology that was used to collect and analyze data for this dissertation study. The methodology used was a case study with multiple data sources. The study used a mixed-method approach utilizing a two tiered procedure beginning with a quantitative method survey to obtain statistical data from 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago public school system, followed by a qualitative semi-structured interview protocol that explored 10 individual cases.

The tier one survey asked a series of nine questions based off of the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework (see Appendix B) and three questions about each school’s adoption of a professional learning community framework. The tier two semi-structured interview asked 10 Illinois public high school Career and Technical Education leaders about the
processes used, topics discussed, as well as his/her opinions and perceptions about leading blended Career and Technical Education teacher teams within a professional learning community framework. The interview questions referenced the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework and the Professional Learning Community characteristics as defined by DuFour, DuFour, and Eaker (2008).

This study applied the epistemological framework connected with qualitative research to examine how Illinois public education high school Career and Technical Education leaders guide blended curriculum teams in employing best practices in providing all students rigorous, relevant, and equitable learning experiences within a professional learning community framework. Data gathering for this research addressed the following questions:

1. According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework? If not, what courses are they providing students?

2. According to the perceptions of Career and Technical Education leaders, how are they using the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework to develop and continually improve CTE programs in their schools?
3. According to the perceptions of Career and Technical Education leaders, how are they implementing professional learning communities to continually improve Career and Technical Education learning experiences for all students?

4. What are the perceptions of the current Career and Technical Education leaders concerning the importance of CTE programs for students and in their schools?

5. What are the implications of this research for educational leaders?
CHAPTER IV
PRESENTATION OF THE DATA

Introduction

The purpose of this dissertation study was to examine how Illinois public education high school Career and Technical Education educational leaders employ best practices in providing all students rigorous, relevant, and equitable learning experiences within a professional learning community structure. The purpose of this chapter is to describe the methodology that will be used to collect and analyze these research data.

Research Questions

1. According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework? If not, what courses are they providing students?

2. According to the perceptions of Career and Technical Education leaders, how are they using the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework to develop and continually improve CTE programs in their schools?

3. According to the perceptions of Career and Technical Education leaders, how are they implementing professional learning communities to continually...
improve Career and Technical Education learning experiences for all students?

4. What are the perceptions of the current Career and Technical Education leaders concerning the importance of CTE programs for students and in their schools?

5. What are the implications of this research for educational leaders?

The methodology that was used to conduct this research was a two-tier sample qualitative study performed in the following sequence:

*Figure 5. Two-Tier Sample Qualitative Research Protocol*

Research question one was answered using a 13-question survey administered to 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago Public School system. Using the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework as a guiding framework (see Appendix B), this survey asked the leaders questions about what CTE programs their schools offer students and how they provide these students rigorous, relevant, and equitable learning experiences that prepare them for college and career within these programs. In addition, the survey asked leaders if their schools are identified as
professional learning community schools as defined by DuFour, DuFour, and Eaker (2008).

Of the 605 surveys sent on June 11, 2012, 72 were returned, consisting of 12% of the total public high schools in Illinois. After all of the 72 tier one surveys were compiled and analyzed, 11 Career and Technical Education leaders, outside of Chicago Public Schools, whose schools met the identified criteria of providing a successful CTE program within a professional learning community were identified. Ten Career and Technical Education leaders were interviewed during the dates of August 14 and October 6, 2012.

The Career and Technical Education survey consists of 13 questions based off of the six Illinois CTE guiding principles: 1) Leadership, organization and support, 2) Access, Equity and Opportunity, 3) Alignment and Transition, 4) Enhanced Curriculum and Instruction, 5) Professional Preparation and Development, and 6) Program Improvement and Accountability and one category of Professional Learning Community. In addition, the survey asked for CTE leaders to list the Career and Technical Education Career Cluster framework courses that are offered to their students.

From these survey data, the 72 returned surveys were categorized into three groups, with 11 that met the criteria for an interview and 10 who were interviewed. There data are displayed in Figure 6.
Figure 6. Career and Technical Education Survey Groups

Results from the Illinois Career Cluster Model Career and Technical Education Survey

Based on the information collected from the 72 surveys, all five of the Career and Technical Education Career Clusters are represented in Illinois public high schools, with the most frequent course offering in the cluster of Technology and Engineering. Table 3 displays the totals for each career cluster collected from the survey. Table 4 displays the totals of each course offering in each career cluster in the 72 schools surveyed.

Table 3

Illinois Career and Technical Education Career Clusters (N = 72)
Leadership, Organization, and Support

Survey Question 1: Do you have established partnerships with businesses, organizations, and individuals from your community? If yes, in what capacity do these individuals serve?

Of the 72 survey participants, 64 responded that their school had established partnerships with at least one business, organization, or individual from the community. Proving internships, jobs, and fieldtrips, as well as providing classroom speakers were the
most frequently used resources by 38 schools each. The survey response tallies are displayed in Table 5.

Table 5

*Survey Question 1 (N = 72)*

![Bar Chart](image)

**Established CTE Partnerships**

<table>
<thead>
<tr>
<th>Partnership Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Established Partnerships</td>
<td>8</td>
</tr>
<tr>
<td>Internships, Jobs, Fieldtrips</td>
<td>38</td>
</tr>
<tr>
<td>Equipment/Materials</td>
<td>16</td>
</tr>
<tr>
<td>Financial Resources</td>
<td>13</td>
</tr>
<tr>
<td>Curriculum Advisory Board</td>
<td>12</td>
</tr>
<tr>
<td>Student/group Mentor</td>
<td>8</td>
</tr>
<tr>
<td>Classroom Speaker</td>
<td>38</td>
</tr>
</tbody>
</table>

**Access, Equity and Opportunity**

Survey Question 2: Do all students have opportunities to take Career and Technical Education courses at your school? If no, which demographic or group of students are unable to take a Career and Technical Education courses?

Of the 72 survey participants, all but three indicated that all students have opportunities to take a Career and Technical Education course at their school. The reasons provided by the leaders of why students were not able to take a CTE course were:

1. Programs restricted to junior and senior students only
2. English Language Learning
students do not have in their schedules to take a CTE course, and 3) Students specializing in a particular program do not have time in their schedules to take a CTE course. The survey response tallies are displayed in Table 6.

Table 6

Survey Question 2 \((N = 72)\)

<table>
<thead>
<tr>
<th>Schools Providing Opportunities for All Students to Take a CTE Course.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No PLC</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>41</td>
</tr>
</tbody>
</table>

Survey Question 3: Are there support services provided to ensure all students succeed in the Career and Technical Education courses? If yes, please list an example.

Of the 72 survey participants, 64 responded that their school provided students a total of 15 different academic support services to aid them in their work of a Career and Technical Education course. The most frequent response to this question of a support service was Special Education with 11 responses. Eight leaders responded that their school does not provide support services students in CTE courses. The survey response tallies are displayed in Table 7.
Survey Question 4: Are there resources provided to ensure all students succeed in the Career and Technical Education courses? If yes, please list an example.

Of the 72 survey participants, 54 responded that their school provided resources to ensure all students succeed in the Career and Technical Education courses; with 18 schools responding that they do not. A total of 16 different types of resources were recorded, with human resources of classroom teachers and technical assistance being the most frequent response with eight each. The survey response tallies are displayed in Table 8.
Survey Question 4 \((N = 72)\)

<table>
<thead>
<tr>
<th>Resources Provided to CTE Students</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money for Student Supplies</td>
<td></td>
</tr>
<tr>
<td>Career Counselor</td>
<td></td>
</tr>
<tr>
<td>Partnership w/ other area...</td>
<td></td>
</tr>
<tr>
<td>PLC</td>
<td></td>
</tr>
<tr>
<td>Teachr Assistance</td>
<td></td>
</tr>
<tr>
<td>Updated Equipment</td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td></td>
</tr>
<tr>
<td>Donated Materials from...</td>
<td></td>
</tr>
<tr>
<td>EFE Grants</td>
<td></td>
</tr>
<tr>
<td>Technical Resources...</td>
<td></td>
</tr>
<tr>
<td>Technical Assistance</td>
<td></td>
</tr>
<tr>
<td>Mandatory Tutoring</td>
<td></td>
</tr>
<tr>
<td>Weekly Grading Check</td>
<td></td>
</tr>
<tr>
<td>Small Class Size</td>
<td></td>
</tr>
<tr>
<td>Job Fair</td>
<td></td>
</tr>
<tr>
<td>Guest Speakers</td>
<td></td>
</tr>
<tr>
<td>No Resources Specified in...</td>
<td></td>
</tr>
</tbody>
</table>

**Alignment and Transition**

Survey Question 5: Are the Career and Technical Education program curricula aligned to local, state, national, and industry standards?

Of the 72 survey participants, 68 stated that his/her school’s Career and Technical Education programs are aligned to local, state, national, and industry standards, two
responded no, and two did not respond to the question. The survey response tallies are displayed in Table 9.

Table 9

Survey Question 5 (N = 72)

Survey Question 6: Approximately how many students were enrolled in a CTE course during the following years: 2008, 2009, 2010, 2011?

During the school years between 2008 and 2011 the average student enrollment of Career and Technical Education programs of the 72 survey participants was 600 students per year. The range of students in each school’s program was between 15 and 2,850 students. The survey response tallies are displayed in Table 10.
Table 10

Survey Question 6 (N = 72)

<table>
<thead>
<tr>
<th>No PLC</th>
<th>Average: 308</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 42</td>
<td>Range: 15 to 2048</td>
</tr>
<tr>
<td>PLC – Did Not Meet Criteria</td>
<td>Average: 329</td>
</tr>
<tr>
<td>N = 19</td>
<td>Range: 43 to 810</td>
</tr>
<tr>
<td>PLC – Met Criteria</td>
<td>Average: 1163</td>
</tr>
<tr>
<td>N = 11</td>
<td>Range: 105 to 2850</td>
</tr>
</tbody>
</table>

**Enhanced Curriculum and Instruction**

Survey Question 7: Do the students taking Career and Technical Education courses at your school have opportunities for dual or articulated credit with colleges/universities? If yes, in what courses and at what college/university?

Of the 72 survey participants, 59 responded that Career and Technical Education students at his/her school has opportunities for dual or articulated credit with colleges and universities, 12 responded no, and one leader did not respond to this question. Of the 16 Career and Technical Education career cluster courses, all but Transportation, Distribution and Logistics and Government and Public Administration were identified as being articulated with a college or university. In Table 11, all of the ‘YES’ responses to this survey question indicate dual or articulated credit with local community colleges. Three of the leaders responded on the survey that they also articulate course credit with a four-year colleges or universities in Illinois. The survey response tallies are displayed in Table 11.
Survey Question 8: Are all of the teachers who teach Career and Technical Education course certified to teach in their designated program? If no, what certification do teachers have?

Of the 72 survey participants, 70 responded that all of their Career and Technical Education teachers are certified in their designated programs. One leader responded no, writing that his/her teacher is a building contractor and holds provisional teaching certificate. The second, no response, did not include a reason on the survey. The survey response tallies are displayed in Table 12.
Survey Question 8 \((N = 72)\)

Of the 72 survey participants, 46 responded that their Career and Technical Education teams do collect data to evaluate and improve their programs, 23 responded that their CTE teams do not collect data, two responded that they did not know if the CTE teams collected data, and one did not respond to the question. A total of 13 different data sources were reported for evaluation and improvement of Career and Technical Education, with student enrollment being the most frequent response with \(N = 11\). The survey response tallies are displayed in Table 13.

Program Improvement and Accountability

Survey Question 9: Are there data collected each year used to evaluate and improve the Career and Technical Education program? If yes, please describe an example.
Professional Learning Community

Survey Question 10: Is your school identified as a Professional Learning Community? If yes, does your school have teacher collaboration time imbedded into the school year?

Of the 72 returned surveys, 30 responded yes to this question and 42 responded no. Of the 30 yes responses, 28 of them have collaborative time built into their yearly calendar.
Survey Question 11: How many years has your school collaborated within a professional learning community?

Of the 72 school leaders who represented to this survey, 30 indicated that their faculty collaborates within a professional learning community structure with the average number of years being 4.5 years. Forty-two leaders indicated that their faculty does not collaborate within a professional learning community structure. The survey response tallies are displayed in Table 14.

Table 14
_Survey Question 11 (N = 72)_

<table>
<thead>
<tr>
<th></th>
<th>42 (N = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No PLC</td>
<td></td>
</tr>
<tr>
<td>PLC – Did Not Meet Research Criteria</td>
<td>19 - Average: 5 years</td>
</tr>
<tr>
<td>PLC – Met Research Criteria</td>
<td>11 - Average: 4 years</td>
</tr>
</tbody>
</table>

Survey Question 12: Do the Career and Technical Education teams have experience establishing student-learning goals?

Of the 30 schools indicating that they have faculty collaborating within a professional learning community, 24 of their Career and Technical Education teams have experience establishing student-learning goals, five do not, and one leader reported that he/she was unsure. The survey response tallies are displayed in Table 15.
Table 15

Survey Question 12 (N = 30)

<table>
<thead>
<tr>
<th>PLC – Did Not Meet Research Criteria</th>
<th>PLC – Met Research Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes: 13</td>
<td>Yes: 11</td>
</tr>
<tr>
<td>No: 5</td>
<td></td>
</tr>
<tr>
<td>Not Sure: 1</td>
<td></td>
</tr>
</tbody>
</table>

Survey Question 13: Would you be willing to be interview about the Career and Technical Education program at your school?

Of the 72 returned surveys, 33 responded that they would be willing to be interviewed about the Career and Technical Education program at his/her school. Of those 33, 11 were identified as meeting the criteria to be interviewed. Ten leaders were contacted and interviewed about how they provide students rigorous, relevant, and equitable CTE learning experiences within a professional learning community framework.

Research Question 1

According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework? If not, what courses are they providing students?

This chapter presents the results from the 13-question survey asked of Illinois public Career and Technical Education leaders. These data collected revealed that
according to the perceptions of the 72 Career and Technical Education leaders who 
participated in this research, they are providing students CTE courses as defined by the 
Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study 
framework. The only area where these data displayed a low percentage was on Question 
9 within the survey: Are there data collected each year used to evaluate and improve the 
Career and Technical Education program? Only 46 of the 72 (63.9%) of the leaders 
responded that data are collected to evaluate and improve their CTE programs. An 
overview of the survey data is displayed in Table 16.

Table 16

Illinois Career Cluster Model Career and Technical Education Survey Result Overview 
(N = 72)

<table>
<thead>
<tr>
<th>Illinois Career Cluster Model Framework Principles</th>
<th>Survey Question</th>
<th>CTE Leaders Who Responded Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership, organization and support</td>
<td>Q1</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>Q2</td>
<td>69</td>
</tr>
<tr>
<td>Access, equity and opportunity</td>
<td>Q3</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>Q4</td>
<td>54</td>
</tr>
<tr>
<td>Alignment and transition</td>
<td>Q5</td>
<td>68</td>
</tr>
<tr>
<td>Enhances curriculum and instruction</td>
<td>Q7</td>
<td>59</td>
</tr>
<tr>
<td>Professional preparation and development</td>
<td>Q8</td>
<td>70</td>
</tr>
<tr>
<td>Program improvement and accountability</td>
<td>Q9</td>
<td>46</td>
</tr>
<tr>
<td>Professional Learning Community</td>
<td>Survey Questions</td>
<td>CTE Leaders Who Responded Yes</td>
</tr>
<tr>
<td>Schools identified as a PLC</td>
<td>Q10</td>
<td>30</td>
</tr>
<tr>
<td>Schools meeting criteria of number of years as a PLC</td>
<td>Q11</td>
<td>11</td>
</tr>
<tr>
<td>CTE teams that have experience establishing student-learning goals of the schools that have a PLC</td>
<td>Q12</td>
<td>24</td>
</tr>
</tbody>
</table>
Research Study Criteria for Semi-Structured Interviews

For a school to be eligible for this dissertation study, all three professional learning community criteria had to be met. Furthermore, indicators #3 and #5 and two out of three of the remaining Career and Technical Education program success indicators researched and defined by the researcher had to be met. The professional learning community criteria for the sample school leaders who were interviewed are:

1. Identify themselves as a professional learning community to their community.
2. Have collaboration time imbedded into the school year for at least two years.
3. Teacher teams have experience of collaboratively establishing yearly student-learning goals.
4. Responds, “yes” and provides evidence to Question #9, *Are there data collected each year and used to evaluate and improve the Career and Technical Education program*, of the Career and Technical Education Survey (see Appendix C).

The Career and Technical Education program success indicators for the sample schools are:

1. Offer no less than two Career and Technical Education courses with published standards and student learning targets that align to the Illinois Career Cluster model.
2. Career and Technical Education certified teachers.
a. Completion of state approved certificate preparation program or hold a comparable out-of-state certificate.

b. Meet all coursework and testing requirements.


3. Consistent student enrollment for at least the past three years

4. Established partnerships with local businesses
   a. Serve as speakers, mentors, and/or on a curriculum advisory board.
   b. Provide shadowing, internship, and/or field trip opportunities for students.

5. Established dual or articulated credit with colleges and universities for at least one Career and Technical Education course.

Of the 72 returned surveys, 33 leaders responded that they would be willing to be interviewed about the Career and Technical Education program at his/her school. Of those 33, 11 were identified as meeting the criteria for the semi-structured qualitative interview. The first 10 leaders that returned the surveys were the individuals who were contacted and interviewed between the dates of August 14 and October 6, 2012.

**Results from the Semi-Structured One-on-One Interviews**

Dissertation research questions #2, #3, and #4 were addressed after collecting qualitative interview data from the semi-structured one-on-one interviews of ten public high school leaders. The following sections of this chapter display these qualitative data. Table 17 illustrates the demographics of the public high schools represented in the
interview portion of this study. Table 18 illustrates the demographics of the public high school leaders who were interviewed and their responses to the survey questions.

Table 17

Demographics of Schools

<table>
<thead>
<tr>
<th>School</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>Cook</td>
<td>Cook</td>
<td>Winnebago</td>
<td>Kane</td>
<td>Cook</td>
<td>Rock Island</td>
<td>Cook</td>
<td>Kane</td>
<td>Cook</td>
<td>Lake</td>
</tr>
<tr>
<td>2011 School Enrollment</td>
<td>2125</td>
<td>1919</td>
<td>1509</td>
<td>2112</td>
<td>8235</td>
<td>1690</td>
<td>5146</td>
<td>2624</td>
<td>2056</td>
<td>1354</td>
</tr>
<tr>
<td>Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>68.0</td>
<td>40.9</td>
<td>46.4</td>
<td>85.7</td>
<td>7.8</td>
<td>64.0</td>
<td>3.5</td>
<td>42.8</td>
<td>75.8</td>
<td>65.0</td>
</tr>
<tr>
<td>Black</td>
<td>1.5</td>
<td>2.5</td>
<td>22.5</td>
<td>0.9</td>
<td>3.8</td>
<td>9.5</td>
<td>57.9</td>
<td>7.5</td>
<td>2.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>19.8</td>
<td>48.8</td>
<td>23.9</td>
<td>6.6</td>
<td>86.4</td>
<td>21.9</td>
<td>36.4</td>
<td>44.7</td>
<td>10.9</td>
<td>12.9</td>
</tr>
<tr>
<td>Low-Income</td>
<td>16.1</td>
<td>33.9</td>
<td>69.6</td>
<td>5.9</td>
<td>81.1</td>
<td>52.7</td>
<td>58.2</td>
<td>57.6</td>
<td>11.1</td>
<td>9.4</td>
</tr>
<tr>
<td>IEP</td>
<td>14.0</td>
<td>15.9</td>
<td>14.6</td>
<td>9.5</td>
<td>10.6</td>
<td>14.4</td>
<td>16.8</td>
<td>13.8</td>
<td>17.9</td>
<td>11.4</td>
</tr>
<tr>
<td>2011 Graduating Class ACT Composite Score State Average</td>
<td>23.4</td>
<td>22.3</td>
<td>17.4</td>
<td>23.8</td>
<td>17.0</td>
<td>19.1</td>
<td>17.0</td>
<td>19.6</td>
<td>25.2</td>
<td>24.8</td>
</tr>
<tr>
<td>Graduation Rate State Average</td>
<td>96.6</td>
<td>91.4</td>
<td>65.8</td>
<td>93.6</td>
<td>74.9</td>
<td>88.0</td>
<td>67.3</td>
<td>83.7</td>
<td>95.4</td>
<td>92.5</td>
</tr>
<tr>
<td>CTE Career Cluster Courses Offered State Offers = 16</td>
<td>4</td>
<td>9</td>
<td>1</td>
<td>11</td>
<td>5</td>
<td>11</td>
<td>5</td>
<td>8</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Years of PLC in School</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: School statistics were collected from the 2011 Illinois State Report Card, www.isbe.edu
### Table 18

**Demographics of Interviewed School Leaders and Their CTE Survey Responses**

<table>
<thead>
<tr>
<th>School Leader</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>F</td>
<td>M</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Position</td>
<td>Principal</td>
<td>CTE Director</td>
<td>Principal</td>
<td>Principal</td>
<td>District CTE Director</td>
<td>Assistant Superintendent of Curriculum</td>
<td>District Director of Assessment &amp; Planning</td>
<td>Assistant Principal of Curriculum</td>
<td>CTE Director</td>
<td>CTE Director</td>
</tr>
<tr>
<td>Length of Interview</td>
<td>35 min.</td>
<td>28 min.</td>
<td>26 min.</td>
<td>25 min.</td>
<td>47 min.</td>
<td>1 hr. 2 min.</td>
<td>56 min.</td>
<td>41 min.</td>
<td>55 min.</td>
<td>44 min.</td>
</tr>
<tr>
<td>CTE Career Cluster Courses Offered</td>
<td>4</td>
<td>9</td>
<td>1</td>
<td>11</td>
<td>5</td>
<td>11</td>
<td>5</td>
<td>8</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Question 1: Established Partnerships</td>
<td>No</td>
<td>-Classroom speakers -Student mentor -Curriculum advisory board -Financial resources -Equipment -Internships, jobs, fieldtrips</td>
<td>-Classroom speakers -Curriculum advisory board -Internships, jobs, fieldtrips</td>
<td>-Curriculum advisory board</td>
<td>-Classroom speakers -Student mentor -Equipment -Internships, jobs, fieldtrips</td>
<td>-Classroom speaker -Internships, jobs, fieldtrips</td>
<td>-Classroom speakers -Curriculum advisory board -Equipment -Internships, jobs, fieldtrips</td>
<td>-Classroom speakers -Curriculum advisory board -Equipment -Financial resources -Internships, jobs, fieldtrips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question 2: Do all students have access to CTE courses?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No Students specializing in a particular program</td>
<td>No ELL students</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Question 3: Support services provided to CTE students</td>
<td>Adhere to IEP</td>
<td>Class-room teacher</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Teacher Assistants</td>
<td>Special Edu. aid</td>
<td>RtI</td>
<td>Guidance programs Marketing of program in school</td>
<td>Classroom teachers providing one-on-one assistance</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Response</td>
<td>Pay for certification exam for low-income students</td>
<td>Students are part of a 4 year program</td>
<td>No</td>
<td>Teaching Assistants Career counselor</td>
<td>RtI Engaging coursework</td>
<td>Academic tutoring Guidance program</td>
<td>Classroom teachers providing one-on-one assistance</td>
<td>No</td>
</tr>
<tr>
<td>Question 4: Resources provided to CTE students</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Question 5: Are CTE programs aligned to standards?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Question 6: Average CTE Enrollment from 2008-2011</td>
<td>2850</td>
<td>105</td>
<td>121</td>
<td>2015</td>
<td>470</td>
<td>431</td>
<td>2150</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question 7: Do You have dual and/or articulation credit</td>
<td>No</td>
<td>Response</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Question 8: Are CTE teachers certified in their designated programs</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Question 9: Data collected to evaluate and improve CTE programs</td>
<td>Alignment to industry standards &amp; career pathways</td>
<td>Analyze common final exams &amp; certification exams</td>
<td>Monthly learning objectives &amp; quarterly assessments</td>
<td>Certification programs</td>
<td>Community needs assessment &amp; student interest survey</td>
<td>Student enrollment data &amp; number of students receiving dual credit</td>
<td>EPAS test data</td>
<td>PSAE test data &amp; Local benchmark assessments</td>
<td>Student enrollment &amp; Student grades</td>
<td>Course alignment to industry standards and college articulation agreements &amp; student surveys</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>Years of PLC in School</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
In addition to the demographic and survey questions, participants of this study were asked a series of questions that explored how they believe that they provide students rigorous, relevant, and equitable Career and Technical Education learning experiences within a professional learning community framework at their high schools. The eight interview questions and a summary of the participants’ responses are presented below.

**Background Question 1 - Please provide some information about your role as leader:**

a. What is your role in the school/district?

b. What teaching and/or leadership experiences provided you the qualifications to assume this role?

c. What experiences do you have with Career and Technical Education?

d. What is your perception of the importance of Career and Technical Education in your school?

Although all of the leaders interviewed had various educational backgrounds, all of them had direct connections to the day-to-day operations of the Career and Technical Education program at their high schools.

**Leader 1:** I am the principal of the high school. I have been here for 11 years, but this is my 37th year in education. I work with director and teachers of the Career and Technical Education division.

**Leader 2:** I was a business major and worked in the private sector on sales and management. I decided to go into education and earn my Masters in special education. I became certified in business and transitioned from special education to business. Then, I
wanted to move forward with a leadership role. This is my seventh year as the division head of the CTE division.

**Leader 3**: This is my second year as a building principal. Before that I was the curriculum principal for two years, so I was involved in all the CTE processes. I was in finance for eight years before I went into education. I was a research analyst for a finance company and I researched stocks for a finance company. I am the main point of contact for CTE in my school.

**Leader 4**: “I am the principal and this is my eighth year. As part of my role, I oversee the CTE division at my high school.

**Leader 5**: I have been the Director of Career and Technical Education as well as the Regional Education for Employment Director for my area for the past three years. I have experience in the culinary industry on the management side. In addition, I have experience with ROTC and leadership training in college.

**Leader 6**: I am the Assistant Superintendent for Curriculum and Instruction. I am responsible for basically anything that is outside of the financial or building realm - so Title funds and anything with the curriculum development, professional development. I am in charge of all the professional development for the district and work directly with the CTE teachers.

I was a chemistry teacher. I wanted to continue my education, so I decided to go into the leadership area and got my Type 75. Right when I finished my Type 75 I was hired as the division chair for math and science here. Then a few years after that I became an assistant principal for curriculum and assessment and I did that for three years and
then got hired into this position and this is my third year in this position as the assistant superintendent.

**Leader 7:** My background is in teaching science. I have a degree in astrophysics and astronomy and then a second Masters in educational administration. I have been in education for 26 years. I used to be the principal of this school and then about two and a half years ago I was asked to move up into this current role of Executive Director of Assessment of Planning. A part of this position is to be accountable for all of the CTE programs.

**Leader 8:** I am the Associate Principal at this high school. In former lives, I was the fine arts division head here and then elementary general music teacher. My experience with CTE is actually working with all elective areas.

**Leader 9:** I am the division head of the Career and Technical Education department. I have been at this high school for 18 years. I began here as a graphic arts teacher after leaving the printing industry.

**Leader 10:** I am a department supervisor and CTE director. As the department supervisor, I oversee the business department, family and consumer science, applied technology, and the library. My role as the CTE director is to attend the monthly or bimonthly county meetings and also handle the Perkins and CTEI grants for both high schools. Besides the department supervisor, I am in the classroom two periods a day. I think what helped for me to get the job here is because my major was business education and my minor was home economics, that is what they called it at the time.
Background Question 2 - From a historical perspective, tell me a little about:

a. The role of CTE at your school.

b. The CTE career clusters offered at your school.

c. The CTE curricular teams at your school.

The Career and Technical Education cluster offered at each of the high schools represented in this study varied in number and in kind. One of the high schools only offers one career cluster to students, while at the other end of the spectrum another high school serves as the county’s area vocational school offering a variety of programs. Furthermore, the role of Career and Technical Education at each school also varied. Two of the leaders responded that the role of the CTE program in their schools is to support the learning of the core subjects. The other eight leaders responded that the role of the CTE program in their schools were to offer students elective opportunities that provide real world experiences. The majority of Career and Technical Education curricular teams represented in this study are in the areas of Business Education, Family and Consumer Sciences, and Technology Education.

Leader 1: I can go back to when CTE was massive in schools and going back to when we had the woods program and we defined ourselves as a comprehensive high school. We still do define ourselves as a comprehensive high school, but in 1975, only about 65% of the students were college-bound. Many students were going to just find something that they loved, their passion. They were going to acquire those skills; auto shop, whatever it would be and enter the world of work at 18. We have known that as the economy has changed and as many of the jobs that we prepared kids for in the 70s and
80s have gone away that we have had to redefine ourselves. We have seen that graduation requirements have gone up. That was huge, but again we squeezed opportunities for kids to take electives. So I think in general, it is our CTE and other elective programs that have to really restructure what kids need to do to become college-ready. These programs need to find ways to support the core skills of reading, writing, and math.

**Leader 2:** There are three groups in the CTE division: Life Studies, Business Education, and Technology Education. In my fifth year here there was a big transition when the new principal took over. The focus of the school is on the STEM initiative and 21st Century skills that are being encouraged by the federal and state governments. Our school has had a very strong math and science background, but was not doing very well with standardized testing. We were the low performers of the district. Our principal saw a niche that matched our strengths and coupled that with where the economy and government funding was going. So, the principal married the two. From day one, he told us we were going to embark on this initiative to be a STEM school. My charge as department chair in CTE is to look for any of our programs that could have a link to that STEM initiative.

**Leader 3:** The perception of Career and Technical Education is very high. This is a manufacturing community and has always been a manufacturing community. In the 50’s, 60’s and 70’s, the students at this high school would work in industry for half a day and go to school for the other half of the day. So that was a hybrid that was available for students here. In the 80’s, it was not as popular because of the manufacturing decline at that time. We have changed our focus from manufacturing to carpentry and house
building over the past ten years. Freshmen take Freshmen Tech. Sophomores take Production Tech. and juniors and seniors take Construction III and IV, where they build houses. We also offer Introduction to Computers and Calculations and Introduction the Business Law.

Leader 4: CTE just went through our curriculum development process. With that, we started to backload district wide career education, technical education, and the middle school programs to prepare students as they hit the high school. At the high school level, our CTE program consists of technology, the traditional woods and automotive, our “FACS” classes (Family and Consumer Sciences), were we have morphed our early childhood education, interior design, fashion design and so forth. We are looking at ways to make that more modern through technology, through computers and such. As far as the importance of the programs, it is extremely important because what we are really concentrating on are those “real world experiences” and real world skills that we (district) think kids need.

Leader 5: We have a fairly comprehensive program that actually has a long history within the community that used to be supported by some local industries that have since gone. Even in World War II, the CTE course students were building stuff for the war effort. The entire first floor of one of the schools, which is basically a city block long, was all of their foundry and industrial technology side of things. But since then, as changes have happened in education CTE has been downsized a lot. About 10 years ago, the district refocused on CTE. They did that for four years until they could no longer afford it. The district was not in good financially enough shape to continue with the CTE
imitative. Our CTE program had continued expanding until three years ago when the finances really hit the wall and we could not do anything as a district. An entire class period was eliminated in the day, which eliminated a bunch of elective courses. That was when I jumped into my administrative role and we had to restructure our CTE core sequences. As of today, we recovered about 90% of the staff with the curricular changes that we made to adjust to the new schedule. We have a CTE sequence in mechanical drafting, architectural drafting, and graphic arts. We also have business sequences that lead to IT or accounting finance or office technology. We have Family and Consumer Sciences course where we have partnered with ProStart and a child development lab where we have preschool running three days a week.

**Leader 6:** We have the Area Career Center in our building. We offer a wide variety of courses in Technology, Family and Consumer Sciences, and Nursing. We really feel like it is a feather in our cap. It is great for our kids. We bring in students from all of the surrounding school districts.

**Leader 7:** There are three high schools in this district. We are currently being operated by the state. The school that I am in is a selective admission high school. The CTE courses we offered used to be this buffet style picking of classes that a student could do. Now the state and the federal government are saying no. CTE is about programs of study. So, essentially we have culinary arts, business education, desktop publishing, and automotive courses at both high schools. We offer an engineering program at this high school. So the career clusters are limited. We are trying to build them back up.

**Leader 8:** As far as career clusters, this has been something that we have been
focusing more on and looking at that because I feel like we have been very random in some areas. We offer a lot of courses. In Business we offer; keyboarding, Microsoft Office classes, website development, desktop publishing, and multimedia. We also offer introduction to business, marketing, sales, personal finance, business law, and accounting. In Family and Consumer Sciences we offer; strands in foods, fashion, and childcare. We have singleton classes of parenting and interior design. In Industrial Arts strands are; drafting, welding, automotive, and construction. We also offer vocational architecture pre-engineering, an electricity program, and a video production class. We have the approval to start a robotics program next year.

**Leader 9:** The CTE program at this school was very weak at the beginning. However, with retirements and new hires, we changed all of that. We offer courses in Business, Family and Consumer Sciences, and Technology Education. In Business Education, we offer; A+, Cisco, information processing, consumer education, accounting, introduction to business, finance, and marketing. In Family and Consumer Sciences, we offer courses in foods, child development, and design. In Technology Education, we offer courses in graphic arts, woodworking, automotive, as well as the Project Lead the Way program.

**Leader 10:** This school did not exist until 2000, so before that it was just our sister high school. At that school, they had a lot more CTE classes. They had woodworking and automotive and electronics. Their enrollment numbers have been starting to decrease. They do not have as many applied tech teachers as they used to. I think with the push for AP classes and college prep and that the demographics of our
community shows that we are still doing well, but just not the same enrollment that it was originally. So historically, I think what we struggle with now is the push for AP classes, and with our new teacher contract containing part of the incentive for teachers to receive their bonus in December is based on three things; the percentage of students that are in extracurricular activities, the percentage of students that are in AP classes, and ACT scores.

The career clusters offered at this school are; agricultural food and natural resources cluster, architecture and construction, business management and administration, and marketing.

**CTE Interview Question 1: Leadership, organization, and support**

a. What is the mission of the CTE program at your school?
   
i. How do you align the mission of the CTE programs to the mission of the school/district?

b. In your role as the leader:
   
i. How do you display your commitment to the CTE program?
   
ii. What structures do you have in place to encourage and support the blended CTE teams to share resources and work collaboratively with each other, other organizations, and business partners within a professional learning community?
   
iii. How do you support the blended CTE teams in establishing team norms and procedures?
   
iv. What are typical blended CTE team meeting agenda items?
All 10 leaders described the structures their schools had in place that encouraged and supported their blended CTE teams in sharing resources and working collaboratively to focus on district and/or division identified goals. However, the leaders also described the challenges their singleton teachers encounter when trying to “fit” into their school’s professional learning community structures. Only leader #5 and #10 spoke to their teams establishing norms and leaders #9 and #10 described using collaboration time to have a “meeting of-the-whole” to discuss building initiatives or issues with the entire division or school.

**Leader 1:** We have the three major goals within our district that every teacher, every administrator, and every support person is working towards the three goals. The three goals are; increasing participation in our AP program, (not just the participation but also the pass rate), reducing D’s and F’s and looking at growth for our subgroups.

We have all of our CTE staff members meeting as one large professional learning community. It is far from ideal because the team has they have, because there are members who are part of our life studies program, our business program, and our Tech Ed program. But because it is a smaller department that if we did not have them meet collectively as a group there would be very little opportunity to share.

There are many things that can be done within CTE to foster the literacy and numeracy skills that kids need to be successful. So what I am always asking them to do is even though they are a smaller department and they do not necessarily have a whole group that meets to talk about their content area, all of them have the same goals of looking at the skills that their kids need and what can they do to build those and embed
those into your programs and your curriculum so that kids then will be more successful in the core. For the courses that do have multiple teachers, we do provide them time in the summer so that they can talk about specific courses.

**Leader 2**: The principal deems it (STEM initiative) as such a positive because he is investing in CTE when a lot of the other principals do not. He is like, “Man, I got your back. I built you a lab. You work, work, work, and these guys sometimes are like, wait a minute, dude, I am busting my hump. These guys are making the same dime as I am.” So, I am the middleman. I have to take care of them the best I can.

The Teams meet every Thursday. It is hard because in CTE, it is so splintered compared to a core subject like English. All of the English teachers are looking at common assessments. They are using mastery manager; they are looking at which questions were wrong. CTE teachers teaching foods and fashion do not get that richness of that experience. So our time is spent more on developing QUEST, which is our research. Addressing the question, “What open ended research can we develop that is applicable to any of our disciplines or any of our content areas?” The Project Lead the Way teachers’ charge is to look at additional certifications within Autodesk. They are kind of open-ended because of the uniqueness of their area. They have to talk to a ton of businesses. They are working on other certifications. We are going to adopt our community college’s manufacturing program (MSSC) which is their foundation certification. Now we are marrying that to them so we are sitting on committee. So even though the teachers are all teaching different courses, they still rely on each other and work together to keep strong programs.
Leader 3: We went to content area teams three and a half years ago. And with the content area teams, that is obviously our PLC. It worked really, really well with our CTE teachers, especially with construction because before that there was not the best communication about what students had to do in their freshmen and sophomore years and what they had to do their junior and senior years. Now, the freshmen, sophomore, junior and senior year classes are taught by only two people. They work with each other and now have their content area team monthly objectives and they are step-by-step.

The teams have two meeting times a month. At the meeting, they talk about the monthly objective, what the kids did, what they need to change. The teams reflect using an electronic grid. They reflect on three basic questions: What do we want them to learn? How are we going to do this? What are we going to do if they don’t? The PLC guidelines are real flexible about what teams have to do. Okay, maybe this month we are working on how to install an electrical outlet and we want to get up to a 100% of the kids knowing how to install an electrical outlet.”

We have some objectives that every teacher works on. Every quarter we have writing prompts that every teacher does in every class. We have vocabulary terms that are also part of CTE because that is part of the whole school.

Leader 4: We (CTE) all teach the seven survival skills, critical thinking, and problem solving skills. We firmly believe in internships and getting kids out and mentoring kids and getting kids to be participatory during, especially their junior and senior years, by getting outside their building and working with people.”
Professional learning communities are imbedded in what we do for seven years. We (administration) meet with those (CTE) leaders and help coordinate the department. Because of the singletons, we do a lot more “cross rivers.” For example, my child development teacher will meet with the child development teacher “across the river” at the other school. When teachers meet in the building, it is those broader life skills that will bind them together. When they do their assessments and talk about kids’ growth, it is based on problem based learning. It is based on different kinds of projects kids do. It is based on research kids do and looking at those broader skills. So that is how it works in the singletons. So we do “cross river” for content twice a month, in house for larger skills. When it is here, because they are singletons, the whole department does not have the same planning period so, again, they will meet in chunks but, again, the lead teacher has a lot of time off where he or she will coordinate as one chuck of teachers meets and talks about those survival skills, he or she will carry over to the next group of teachers.

We used to have department chairs. We eliminated these a few years ago. In their places we have instructional coaches. Our coaches, with administration, actually lead teachers first on how you set up a PLC, how to you set up your norms, and so forth. And then in turn we monitor that with our PLCs. This year, it is kind of cool, we are getting away from the idea of “norms” and going to “values.” Now we are really saying what is that we really value and believe about learning and teaching and that is going to guide our conversation. So that is becoming deeper and that really helps those singletons.

Leader 5: From when I took over, the mission was to find a way to bring more offerings to the students than what our current situation allowed for. So the CTE teachers
and I got together and I said, “Here's the situation. This is what we have. What are your ideas?” We did a lot of brainstorming and along with that the district had just started implementing the PLCs. Nobody was opposed to it, but it was so unfamiliar to them.

We have late start twice a month. At the beginning, each campus operated as silos, using different textbooks and things like that for the same classes. CTE was not as nearly as bad as some of the other content areas. However, somehow we were behind in creating common assessment and common units compared to other divisions. As the CTE leader, I was able to learn about how a PLC should work and gave the teachers an abridged version of the information. Now, we are rewriting all of our courses together.

Part of the challenge of a PLC is do we have cross town meetings with the other campus to align curriculum. One advantage that we have is that I can budget money (Perkins and Career and Technical Education of Illinois grants) for curriculum work that other division in the school do not. Because of the singletons, we spent the first year of working in a PLC on each team focusing on one course. I wanted them to learning the process first and then apply the process to all of the courses. We began by establishing norms.

During our twice a month meetings and six half-day school improvement days, we occasionally break the large group up from and have everybody get into small groups where it is one person from IT, one person from business, one person from family consumer science to look at what they have been doing to see if there is something that they could add.

Leader 6: I have worked with the CTE teachers a lot. I have trained them in
curriculum mapping. I have done sessions with them on rubric writing. Many of them did not know how to assess their students. The curriculum mapping really brought collaboration to the forefront, focusing teachers to really reflect on what they were teaching and why they were teaching it.

The way that our collaboration occurs – it is difficult to with CTE because they basically end up being independent contractors down there. I do not know how else to explain it. When we are talking about consensus mapping, it is okay, now make sure you are in consensus with yourself. We do have three teachers teaching welding now. So what they do is come together and agree on the content skills and assessment that they agree to teach. Then they talk within department meetings about the issues associated with CTE and the specific special challenges. So basically, our professional learning communities are centered around our curriculum mapping. It gets difficult because teachers do not have somebody necessarily that teaches your same class to collaborate with. However, what I find, for example, is our mechanics teacher and our auto body teacher, collaborate all the time. They work together on their mapping and everything that they do because they have knowledge of both areas.

Leader 7: We have had a significant turnover in our leadership in our district. We have all three new principals in the buildings. Our superintendent now has been here for five year. Before that, we had five superintendents, six superintendents in five years before that. The stability of the district was just rock bottom. Now we have some stability, as well as having one of our principals with a CTE background.

The focus of the district is reading. We are identified as a very low performing
district. Of high school districts in the state of Illinois, we were 96th of 99 in our performance. It is just not good. So, we are really trying to become more strategic about our goals, which include CTE programs, and increasing reading and math levels for all students.

We have had PLC time since 2005, which has been phenomenal that we have been able to keep it. It has not been too much of an issue for people. We have a late start every Monday or the first day of the week, and it is essentially a period off. During this time, the teachers are expected to work collaboratively. We have learned over the years that we need to build in more structures for collaboration. So, we created conditions where teachers know what is expected of them. They have the tools, data, and the support from the people who understand the process enough to be able to guide them in the process. Specifically this year, we decided to schedule the PLC’s. So, once a month, there is a PLC-of-the-Whole where it is for building-wide issues. It is not meant to be a faculty meeting. However, it is hard to keep principals from turning this time into a faculty meeting – the time is meant to be an opportunity to wrestle with the goals of the district. Then, we have a PLC where we do specifically talk about curriculum initiatives from the district level.

**Leader 8**: This is our fourth year offering Professional Learning teams time every two weeks for two hours to work collaboratively. So there is time allotted for teams to meet. Initially when we set out, we had teams for all of the different areas. Since then, we have tweaked and changed how some of the teams in some of the areas have aligned themselves. The teams work towards goals. So as far as CTE, it has been a challenge for
teachers to collaborate because there are a lot of singleton teachers. For example, we have one welding teacher and one construction teacher. They do not have someone to work with on their curriculum during that time. So our CTE professional learning teams definitely look a lot different than the other learning teams in the building. However, because we have grant money, we have pulled the teachers out of class monthly to work with their “job alikes” at the other schools.

We have always been on a block schedule. This year we moved to an eight-block day with 45 minutes, so the PLC teams have been spending a lot of their time focusing on transitioning their curriculum. In those courses with multiple teachers, they really do everything identical every day, which is nice.

**Leader 9:** It is a struggle to align the mission of the CTE program with the mission of the school because you need to have an ear of the principal or superintendent that only wants to hear about the ACT scores. You have to continually be an advocate for those (CTE) students, not for teacher, for the students. You must show that what they (CTE teachers) are doing is important and it can lead to growth. This year’s district initiative is vocabulary. We do have members of our department on that building wide committee and they come back and share their findings with the group.

It is a challenge to operate within a professional learning community for the CTE division. Sometimes you do not want to put a square peg in a round hole. If it does not fit, it does not fit. I do not want to force people to try and do things that does not work. I am very big into, “we are all in this together.” When we meet on Thursdays, I will go through issues within the building, but doing the issues within the building, I am trying to
spur on conversations of, “I want us all to reflect on everything that we are teaching and is there something better.” I hate it when we just say, “We are the best!”

This year, the Business Education team is focusing time on their new curriculum for Information Processing and Personal Finance. I only have two Family and Consumer Science teachers, so I try to form commonalities within their classes so they can focus their work. In Technology Education, we have multiple levels of our Project Lead the Way courses. They are having vertical conversations. Also, they spend time fixing equipment. I am okay with this because that is going to help out in the classroom, and that is our main goal. The other thing I am okay with is when teachers meet with a teacher who teaches the same subject at another school in the district. We call it “roundtables.” They usually occur twice a year.

**Leader 10:** If I had to sum up our mission in one sentence, I would say that we are preparing students for a career in life. If it involves going to college, if it involves going to technical school, then we are helping to prepare them for that. Our school mission statement is as is states on our school website, “Respectful, responsible, ethical attitudes and behaviors of what we want our students to have; an awareness and appreciation of diverse cultures in our learning community and our world, an ability to think critically and solve problems, an ability to communicate effectively, an ability to appreciate and demonstrate creativity, and a lifelong desire to pursue knowledge.” All of those things are impacted in all of our classes. So that is where CTE kind of matches with district mission statement.

We have been a professional learning community for two years. We are a little
new at this. We have a late start every Wednesday. The teams are expected to meet two of the four days a month. Then, one of the Wednesdays, we have a department meeting. Also, we do have teams set team commitments, establish SMART goals, and reflect on each meeting in their PLC Journals.

Our Applied Technology team has not been too successful. There are only two teachers on the team and one was out most of last year for a knee replacement. In the business department and family and consumer science, we had joint PLC time. They worked on our Consumer Education and Consumer Management course together. Since the standards are the same for the courses, the only difference is the standard being additional for consumer management in the foods area. But they can work together on the standards and work together on common assessments and have a goal on how they wanted students to improve. So that was a successful PLC.

As department supervisor, I wanted to be involved and direct their work and follow their progress last year, but I feel like now the teachers need to take ownership of it, and I need to butt out and let them run with it now. The teams are running pretty smoothly. They can make additions and changes without me being in there.

CTE Interview Question 2: Access, Equity and Opportunity

In your role as the leader:

a. What strategies do you use to recruit, enroll, and retain students in the CTE programs?

b. How do you create a master schedule of courses to allow for all students to have opportunities to take CTE courses?
c. What support services do you provide to promote academic success for all students in CTE courses?

Eight of the 10 leaders responded on the CTE survey that their schools provide access, equity and opportunity for all students to take a Career and Technical Education course. In their interviews, leaders #2, 3, 4, 5, 8, 9, and 10 spoke to the methods they use to recruit students to the programs and support them while taking courses. School leaders #1, 6, and 7 reported a declining student enrollment in their CTE programs. According to these three leaders, the decline in enrollment is due to students having to take or retake a core subject. Furthermore, leader #7 believes the reduction of an instructional period during the school day, from eight periods to seven, is an additional cause for the reduction of students in the program.

Leader 1: I am going to be very honest, the (CTE) department has had declining enrollment. Some of it is because as we continue to try to build the literacy and numeracy skills for our at-risk population, we have needed to spend more time with the specific reading, writing, and math. For example, our most at-risk freshman will have a double block of English or reading. They will have a period and a half of math, which obviously gives them less time to pursue electives.

We have kept our day eight periods, and as added requirements that kids have to take. There is no room in their schedules to take an elective course. I have kids all the time that said, “I’d love to take an art course.” Not even in the area of CTE but another whole elective program, but “I just can't fit it in.”

There is such a diverse group of learners within all of the CTE courses resulting
in varying reading abilities. So, I had the reading teacher work with the CTE teachers to find articles at three different Lexile scores so the kids are basically reading the same content, but reading it at a level that is appropriate for them.

Leader 2: Our goal is for each career pathway there is an exit point for every student. If a student is not an engineering student, maybe he can get to the manufacturing level or maybe he could just get to the Level I NIMS where he can just potentially be in the shop using a micrometer to just measure parts or what have you. We wanted exit points. We want a place for every kid. So, for the students who were not qualified for Introduction to Engineering Design (IED), we developed a course that coupled with geometry, called it CADGeo. Students get exposure to the software and then they also knocked out their math requirement. If the student did well in this course, he then could take IED.

Leader 3: With the master schedule, and it is kind of a cheap way out, but we do not change for those classes. The construction classes are a two-hour block and they are always second and third hour and the afternoon is 6th and 7th hours. Because the construction program has been so successful in the district, we have more students wanting to take the courses than we have room. Much of the academic support services for this program come from the teachers.

Leader 4: As much as you think it will, our communication with middle school is very limited because of the bureaucracy in the district. Secondly, our district has done so much maneuvering with the middle school and that whole exploratory wheel. We are not always consistent and where kids get when they come up to us. That has been a challenge
for us. That is why as our district is moving towards this whole curriculum development process. It will bring teachers K - 12 together with CTE.

Regarding the master schedule, our assistant principal is very adept at coming up with common planning periods. He will work closely with his counterpart at the other school to develop a same schedule so that the wood’s teacher here can have the same planning period as the wood’s teacher there. This allows for better alignment and better curriculum.

**Leader 5:** I picked the CTE areas where I thought we could see the biggest growth in student enrollment to focus our PLC work so we could get those course offerings updated for the following school year. We put our minds together to update our sequences to attract more students. Also, I started looking more towards industry certifications for our CTE programs as a big selling point for students. After we revised the curriculum, we saw a huge jump in enrollment and interest from other groups of students that weren't our typical CTE students. We have gotten a few more honor students. We have a few more kids whose parents said if you can get that certification you’re taking that class. It is just like taking and Advanced Placement course. If you take that class you can get college credit, you are doing it.

Retention is an issue for us because with the new credit structure. Students take five classes a year, and they have to get 20 credits to graduate. They really only have a couple spaces in their schedules to even take elective courses. If they are college bound, they only have their sophomore year and their senior year to take any elective courses.

**Leader 6:** Basically what has been happening in the last few years is we are
hoping that the finances are going to get better, which they are not for us. In addition, with an increase in graduation requirements and lack of funding, we are seeing fewer students come from other schools. To support our CTE programs, we have prepaid tuition for our kids to the Area Career Center so that we can keep it afloat. Also, we used a professional development day to provide time for other teachers in the school to tour and actually see what is offered to students in CTE. Our numbers are pretty good.

Our master schedule is designed to work best for our students each year. Scheduling is difficult, especially when you have single sections. Providing academic support systems to students in CTE is very similar to what is offered to the whole school. However, it is hard to provide outside support to a student who needs help with content like welding. The teacher is probably the person that will help the student the most.

Leader 7: Two years ago we moved to a prerequisite model for our graduation requirements. So students cannot go on to another class until they pass the previous class. At the same time, we removed one instructional period from the school day. So before we had seven instructional periods, eight periods, now we have seven periods with six instructional periods. That master schedule changed has had a huge impact on our electives including CTE. Our CTE enrollment has dropped easily by 25%. We actually had to be creative with how we schedule of our CTE teachers so that we do not lose them. Some of them are actually doing our credit recovery program.

We have tried to make a real emphasis on nontraditional participation. So, we are going to hold some workshops for parents to try to encourage girls to take automotive this coming year and the boys take culinary.
Leader 8: Probably the biggest strategy is our recruitment of the eighth graders, just to get them interested; because once you can get them in their freshman year then they get that interest. We do a presentation at every middle school about the elective opportunities we have at the high school. Also, we do have a fair in January where all the kid comes and schedule their classes. During that time, they can walk around and talk to teachers and students about sports, clubs, and elective courses.

Once in high school, we have a college and career specialists that provide support to our students. Also, our master schedule is designed to support CTE. Student requests of CTE courses drive our master schedule.

Leader 9: Recruitment and enrollment for our CTE programs is not an issue. In some programs like graphic arts, we have to turn students away because we already filled all eight periods of the day. However, we have parent nights to promote our programs.

Leader 10: As far as recruiting students, we have a parent orientation. Some teachers send home letters to the parents saying your child would really be great in a particular subject. I told the teachers that they really should take some time at the end of the semester and spend time with each student to say you know, “You would be really great in this other CTE course. Have you thought about taking that next semester?” I think it really makes a difference. Students just do not know their options. We also send teachers to speak to students at our two feeder schools.

CTE Interview Question 3: Alignment and Transition

In your role as the leader:

a. What procedures do you have in place to ensure the CTE program sequences
are aligned to local, state, national, and industry standards?

b. How do you support your blended CTE teams in sharing course and student learning data between junior high school and high school, and between high school to postsecondary institutions?

Of the 10 leaders interviewed, leaders #1, 2, 5, 8, 9, 10 spoke to providing students with opportunities to earn certifications or college credit from CTE courses. Leaders #1, 2, 4, 6, and 9 described the partnerships they established with local industry. Leaders #2 and 10 stated that they do have articulation conversations with their middle schools. Leader #3 did not respond to this question. Finally, leaders #7 and 10 confessed that their schools were making progress under the CTE principal of Alignment and Transition.

**Leader 1:** We work on that as a district so that each one of the courses, aligned with state standards - so that there would be some type of either some certification at the end of that course sequence or some pathway that would prepare students for postsecondary – whether community college or college.

**Leader 2:** We went one by one. We started with the engineering program. We fostered steering committees that gave us equipment, material, internships. Then we took the next step and looked at the manufacturing side of things. Our goal is on that on each career pathway there is an exit points for every student.

To recruit, enroll, and retain students in the CTE program, you must have a captivating, and engaging teacher. Also, you have to market to the counseling staff. Like when we are talking about the machining course, we talk about the skills and we pull out
advertisements for the jobs openings in the area - a Level I machinist at Maurice Sakey (phonetic) you can make $80,000 to $100,000. This year, we also provide information to parents at Parent Night and at Latino Night.

We have Gateway to Technology, which is the precursor to Project Lead the Way, the junior high curriculum. We began that three years ago, and we trained the junior high tech teachers. So, that is a nice recruiting base for us. We also have a summer STEM camp and research symposium in the spring.

Leader 3: No Response.

Leader 4: We just started with work with our career clusters and as students start to choose where there interests are and what they would like to do, they learn how our different career clusters fit. Not everybody has totally bought into this because my other electives, like music, get very frightened and think that this will take kids away from them. We do have partnerships. Project Lead the Way is probably our strongest partnership right now. We partnered with local industry. They have come to our school and we send students to them for internships.

Leader 5: I started looking more towards industry certifications as the big selling point to students. When students see that they have an opportunity to receive certification in Adobe, AutoCAD™ or Microsoft™, they take the courses. Counselors really sold that side of it.

Leader 6: We have partnerships with the local manufacturing company, as well as with the local hospital. Also, we are partnered with our local community college through dual and articulation agreements and utilize firefighters to come in and teach a
firefighting class.

**Leader 7:** The short answer is “not well.” Because CTE’s lack of stable leadership has mirrored the districts, we do not have any leading that charge. If you look at our course catalog, it still needs modification. It has been ignored. When I work with our consortium director, she has been very helpful in trying to make sure that our programs of study are aligned, and that our courses do match up with what the state needs.

**Leader 8:** Articulation agreements with our community college drive the curriculum we teach in the high school. For example, if our Childcare 1 classes are articulated, we need to make sure that what we are doing in the course matches what they are doing in their course.

**Leader 9:** We do have an advisory board. The number one goal within this group is to make sure we are going in the right direction based on their work experiences, which is good! The second thing they do is provide opportunities for our students. They give internships and plant visits.

In addition to receiving guidance on industry standards from our advisory boards, we are working on providing students more opportunities to graduate from high school with certifications. Our automotive teacher and program is now National Automotive Technicians Education Foundation certified. We are looking for programs within our curriculum to do the same. We also offer ProStart in our culinary courses.

**Leader 10:** For quite a while we did not have standards for our area, so we went with our national organizations. To be quite honest with you, I do not know if we are
really being on top of that as far as with the industry. That is where we are probably the weakest is the industry standard. That is why I really want my teachers to go out to professional development and conferences.

We do articulate with the middle schools. That is my role to facilitate. Our curriculum is also aligned with the other high school in the district.

**CTE Interview Question 4: Enhanced Curriculum and Instruction**

In your role as the leader:

a. How do you help the blended CTE teams stay focused on student learning?
   
i. What are some examples of student leading goals the blended CTE teams set?
   
ii. How do the CTE courses integrate academics with real-life experiences?
   
iii. How are career exploration, development, and guidance included into the CTE courses?

b. What CTE dual and articulation agreements does your school/district offer your students?

For all 10 leaders, career guidance and real-life experiences were imbedded into the daily work of the Career and Technical Education courses. Also, all 10 CTE programs offer students dual and/or articulated credit for one or more of their courses. However other than leader #10, who indicated that the CTE teams’ next step in their collaborative process is creating rubrics and assess student work, none of the other ten leaders spoke about their teams setting specific student learning goals.
Leader 1: We work closely with the community college and we have some programs that receive dual credit. Probably our most successful program is Project Lead the Way. It is not dual credit, but as a result of the passing of a test, students can get credit through the Milwaukee School of Engineering.

Leader 2: I went to every different program and said, “What is in your program – what would be your capstone ultimate moment? Is there a certification? Is there a dual credit opportunity? Is there external experience available to students out there? You need to research our options?” Our drive was any program that we offered within CTE there was going to be some sort of capstone experience that would transition students to postsecondary opportunities while staying within the building-wide STEM-related activities. We have agreements with our community college.

Leader 3: One thing we do lack is that we do not provide the kids with any licensure when they are done. That is what we have been working on and to not do so is really a disservice to the kids. To an extent, it is an apprenticeship program. We work very closely with the carpenters’ union.

Leader 4: Stay focused on learning is the focus of the school, so it is the focus of CTE. It is a nonnegotiable. We keep working at that culture. The PLC’s will be asked to bring their latest piece of student evidence to the table and have some very serious hard evidence question discussions.

Leader 5: We do what the college said they wanted to have us do as far as earning dual credit. However, I showed them (local community college) how their sequence in office management and things like that was not only behind the times it was
just plain old awful and obsolete. Their director of CTE acknowledged it, agreed with the assessment, and we partnered with them instead of having the adversarial relationship that we had had before.

**Leader 6:** Our focus on the curriculum mapping keeps us focused on student learning. We have been doing it for four years. In addition to the connections we have with local industry and our dual credit courses with the community college, we have the career cruising software. It has been evolving over the past few years, but all of the students get a chance to work with it.

**Leader 7:** We still have a very antiquated print shop, woodworking shop. Their facilities are from the 1960s basically, 60s and 70s. So trying to bring their program back up is a lot more challenging because it would require some massive infrastructure improvement, which we just do not have the money for. I have done a massive investment in funds for the automotive program so that it now has stuff from later than the 1970’s.

In order for our CTE teams to stay focused on student learning, we have strong leadership at the building level. We have to have people, at least one person, asking questions like, “What progress are we making?” and “Here is where we need to go.” The CTE teams do not yet have clarity of a vision.

**Leader 8:** We’re really proud of having a number of articulated classes with our community college.

**Leader 9:** In addition to the “real world” opportunities our advisory board provides our programs and our students, we have a college and career counselor that
supports our program.

We are focusing more on providing our students with dual and articulation agreement opportunities, specifically in the area of graphic area. We are working closely with our community college to do this. Our Project Lead the Way Program courses are articulated too.

Leader 10: Our next step to keep ourselves focused on student learning is learning the steps of assessing student work in our area where it is hands-on projects and developing rubrics. This will be especially challenging for a few of my veteran teachers.

I am on the Board of Directors for the local Chamber and that has been very helpful to making “real world” connections for my teachers. I have scheduled classroom speakers and arranged field trip experiences for our students. Local business people have served as interviewers for various classroom projects. We also host a career expo every other year.

Regarding dual and articulation agreements, we do have articulation agreements with our community college for Electronics, Architectural Design, Engineering Design, and Accounting 1. Also in Accounting 2, there is a chance for students to get six fully transferable credits through Kansas State if they take an online course and a qualifying exam. We are always looking for new ways to connect to the community college.

CTE Interview Question 5: Professional Preparation and Development

In your role as the leader:

a. What is your procedure to recruit, select, and retain qualified CTE teachers?

b. What professional development opportunities do you provide the CTE
teachers?

c. How do you encourage and support the blended CTE teams to work together to build shared knowledge on the best way to achieve student-learning goals?

d. Do the CTE teams use scientific, researched, collaboration protocols to share ideas and practices? (Collaborative grading, critical friend, lesson study, etc.)

i. If so, how are these protocols used and for what reason?

During the interview, none of the ten school leaders could speak to their CTE teams using scientific, researched, collaboration protocols to share ideas and practices and only leader #5 spoke specifically to supporting CTE teams working together to build shared knowledge and the best practices for achieving student-learning goals. All leaders spoke to how they provide CTE teachers with professional development opportunities and the processes they use to recruit and retain qualified teachers. For these ten schools, leaders either found the recruitment of qualified CTE teachers quite easy or extremely challenging. The three school leaders (#3, #7, #8) whom stated that recruitment of qualified CTE teachers as a challenge all represent schools that have a high number of low-income students and had a low graduation rate for the 2011 school year.

**Leader 1:** The school has seen a decline in the CTE program enrollment, thus recruitment, selection, and retention of qualified CTE teachers has not been a subject of conversation in recent years.

Professional development opportunities are open to whatever that professional feels that they need to continue to grow. My Associate Principal for Instruction has a budget, it's not huge, but it is enough. So if a group of teachers said, “We’re going to stay
after from four o'clock until seven o'clock to work on learning Google™ applications,” we would be able to actually have compensation for that in a workshop pay.

**Leader 2:** We had the staff intact. We had the ability to – move one of our technology teachers over to the construction building home program. That afforded us an opportunity to recruit an additional teacher. We found a graduate of our school that went up through our program, so we knew that he had a nice foundation and a strong technology education postsecondary experience as well.

**Leader 3:** Recruiting and retaining CTE teachers has been tough. There are not always a lot of positions out there for CTE teachers. With that, there are not a lot of CTE teachers out there to get the jobs and these are really important programs. I usually call universities. I also contact local unions.

**Leader 4:** We are lucky in that way that we do not have to do a lot of recruitment. We are really blessed with the applicants that come to us. We have not had a large turnover. Part of it is the economy. They are not going anywhere. But we try to give a lot of freedom to our teachers and we try to really support what it is that they need or want to do.

Regarding professional development, as soon as we know what direction we want to go in, we make sure we provide adequate training for the teachers. We make sure that we pay whatever expenses we have to. We make sure that if they need to see somebody, or somebody has to come in, we try to open those doors.

**Leader 5:** After I modeled establishing norms and working together a couple times with a couple of groups, they now are now taking the bull by the horns and working
together.

**Leader 6:** We always post on the IASA job bank. We post internally and sometimes we put it in the newspaper. Recruitment of staff has not been a conversation for us lately because enrollment has been decreasing. We have reduced staff through attrition, so we have not laid off anybody. We have had a really consistent core of teachers for a very long time. We pay them well.

Regarding professional development opportunities, because every department has different needs, we tailor the professional development to what they need within that department. All of the professional development has been focused on our curriculum mapping initiative. Also, some teachers have been trained in Kagan cooperative learning strategies and SmartBoard training.

**Leader 7:** Regarding recruitment, selection, and retention of CTE teachers, we have some teachers who have been here too long. I will be very honest. We have teachers who really do not like kids. They do not want to teach them. In addition, we almost lost our automotive program at one of the schools because the teacher died. We had a hard time finding anybody to replace him. When looking for a teacher, I look for the career changers because they bring a different set of perspectives.

Regarding providing professional development for teachers, this year we are bringing in two consultants from Northeastern Illinois University who’s area are CTE education to provide training to the teachers on teaching reading in the content area.

**Leader 8:** As a district, we are not up there as far as the big boys as far as offering that first year teachers salary too. When we do recruit, we try to have a nice packet of
information. When we bring candidates in for interviews we share the love of the school.

Regarding professional development, we do try to arrange the master schedule so teachers who teach similar subjects can have a common planning period, or even just a common lunchtime. Also, we have sent our teachers to common core training and whenever our community college offers a workshop, our teachers attend.

**Leader 9**: Teachers are a draw for students to take an elective course. Teachers must have personality. They must be able to engage and connect to students. I hire a teacher who can build rapport with kids. Fortunately, we do not struggle with recruiting and retaining teachers.

We have the greatest tool to us as administrators in that most of our teachers have to get a masters degree plus 30 or 60. I really try to channel them into programs that will provide them and our students the best opportunities. For example, our graphic arts teacher is dual certified in Technology Education and Art Education. In addition, we encourage and support financially teachers who earn industry certifications.

**Leader 10**: To recruit great CTE teachers, I make sure to attend the yearly job fairs. Also, I get to know the department heads at Illinois State University.

I am really big about getting my teachers out to conferences and having them get out of this building and experience new ideas. So I reserved Perkins money just for travel for the teachers. Also, I started a career advisory council here where we have people from business come in and work with us. We have a real life interview project where a lot of business people come in and be the interviewers for the mock interviews for consumer management and consumer education.
CTE Question 6: Program Improvement and Accountability

In your role as the leader:

a. How do you support your blended CTE teams in the use of data to continuously improve the curriculum, instruction, and assessment of their courses to meet the needs of all students?

b. How do the blended CTE teams assess student learning?

c. Do the teams share common assessments and assessment methods?
   i. If so, what are they?
   ii. If not, why not?

d. What is an example of a common expectation that a blended CTE team has for student learning?

Eight of the 10 leaders interviewed stated that where there were courses taught by multiple teachers in Career and Technical Education, the teachers used and reflected on a common final exam. Leaders #6 and 9 confessed that they do not have a systematic formative or summative assessment approach yet to talk about student learning. None of the ten leaders provided specific examples of common expectations that their blended CTE teams have for the students.

Leader 1: Each one of the PLCs is required to collect artifacts. At the end of the year, teams turn in these binders, which we (administration) periodically look at. In the binders basically are the seven strategies. They talk about different projects that they have done, the data that they have collected. Sometimes we even have the reading teacher go in and set Lexile scores for different articles for the CTE teachers. So they basically
collect the artifacts. Again, it is not in an evaluative purpose at all, but it is just to get a sense of what the teams are doing. In many cases, the teams set their SMART goals and then they reflect back on how well they did. We will look at as a school how our math and reading scores. So the teams also look at these data and reflect on what they can do specifically to help.

**Leader 2**: In the district, not every content area has a common final. Some do, especially the teams that are in the building.

**Leader 3**: All sections of the same course use the same final exam. When teams reflect on the data, they are not only looking at their individual 30 students, they are reflecting on the data of all students. With CTE, it is a lot of skill development.

There is no real curriculum written for these guys. However, the classes have been around so long that the teachers know their stuff, their step-by-step process and where they want to start and where they want to end up. The curriculum was never formalized before we started the content area teams and with the monthly objectives, it helps them to have a goal post every month.

**Leader 4**: We started with talking about students’ scores; formatives and summatives. Teachers almost felt it was a too restrictive process because, “*we are going to stop and give a common formative, or, we are going to give a common kind of project where kids are going to have to work together, and we are going to have this rubric that.*” Starting last year, we made the transition of bringing student work to the table, not just the scores on a test, quiz or project, but actually looking at student work. The teams identify the skills that they are looking for, and are starting to talk about evidence instead
of just data. It is harder in CTE because of the singletons. Furthermore, it is harder because it really forced teachers to think outside their traditional teaching and start changing their instruction where kids are doing more project-based work. So it has been a little shaky at that point, but we are giving them a lot of flexibility and freedom to play the curriculum, instruction, and assessments.

**Leader 5**: At the beginning, we had nothing common, no common assessments established. We focused our first year on trying to establish common units and common assessments and getting them to work. We started with the second semester focusing on setting the units for the second semester. When we completed that task, we then looked back and fixed everything from the first semester. By doing that in the first year, it was far more qualitative data addressing the question, “What were the kids doing?” Now that we have this focus on what our units are going to be about, the teachers went about teaching the way they always had with their unit goals and objectives, but nothing else.

After two years of working within PLC teams, all courses have the same final exams. In some courses, teacher did start looking at final exam data. These teachers were able to show from the pretest to the posttest at the beginning and end of the class how much more knowledge the students gained. Also, they were able to look at different exams at the final and say, “All right, but we still had 86% of students miss this question.” So they begin looking into what types of questions were missed or what areas.

**Leader 6**: Last year, we mandated common final exams. We now have a data warehouse. We are rolling it out to teachers this year. All of our teachers, including CTE teachers, will be able to log in and be able to see their kids and how their students
performed on the EXPLORE, the PLAN, the ACT, reading placement tests, math placement tests, and other assessments. We are in the very early, early stages of utilizing the warehouse. Right now data collection and reflection is not occurring, other than what teachers maybe doing on their own. The assessments are practical based that demonstrate mastery of particular skills. Actually the CTE teachers wanted to pilot the system because they want to customize answer sheets for their courses. We have been working with them to develop pre and post-reading assessments.

**Leader 7:** At least twice a month, all the CTE teachers at the schools can collaborate within their teams. As part of this process, this year the teams are going to have the reading consultants come in to provide training and support. They will be able to look at data, which I prepare for people, and really begin to wrestle with curriculum issues. Regarding school wide data collection, we did just survey all of the students. We had over 50% complete the survey. They reported that they did not feel that there was an adult in the school who really cared about them.

**Leader 8:** We have common assessments and we use the Scantron achievement series. The CTE department has been the one that has moved the farthest in the school. The teams look at the data and talk about what is working and what is not. They ask questions like, “why is one teacher’s kids getting that question wrong constantly, when another teacher’s kids not?”

**Leader 9:** We look at student surveys as well as collect information provided by our advisory board and other postsecondary organizations that tell us if our programs are aligned and are students graduate high school prepared. Enrollment is an indicator for us
Leader 10: For the courses with multiple sections with more than one teacher, we use the software Mastery Manager to collect student data. We want to do the same for the singleton courses. We will see how well we can get together with our sister school to develop common assessments across the district.

CTE Interview Question 7: What challenges have you encountered leading blended Career and Technical Education team collaboration within a professional learning community framework?

Seven of the 10 leaders responded that the biggest challenge they encounter leading blended Career and Technical Education teams is, “Making PLC fit in CTE.” Because there tends to be a high number of singleton teachers and singleton courses offered to students within CTE, leaders struggle to create a collaboration structure that matches the perceived needs of the CTE teacher teams.

Leader 1: I think the challenge is that CTE team has to figure out how they fit in and can support the core.

Leader 2: Certainly the singleton courses and singleton teachers. So it is just on those days (PLC) where we are supposed to be sharing common ideas and common assessments, it gets to be a challenge when they’re just completely different content.

Leader 3: Time and aligning content. Teachers do not know what other teachers are doing in their classrooms.

Leader 4: Time and trying to stay focused on those larger skills and still get the minute details of their particular class to go forward. Trying to get other disciplines to
understand what they are doing. I think that has been really, really hard. And, sometimes the biggest challenge is when we hit January and February, registration, wondering whether your numbers are going to be there.

**Leader 5:** The challenge is getting people who have never worked with other people to work with them. They are the experts in what they teach. They wonder, “What do “these” people know that could help me?” Also, it is about teachers opening up and finding external resources, instead of just sticking to what they know.

**Leader 6:** My perception is they (CTE teachers) want to be very good teachers, and they are good teachers, but they get frustrated more easily because they are not as familiar with educationee’s of teaching and learning. They are outside of their comfort zone with curriculum mapping. Also, team collaboration is a challenge for them. They were the most difficult group to get on board.

**Leader 7:** I think to some extent the CTE teams challenges are greater than say the math team because on the CTE team you have teachers who teach different subjects, they do not even speak the same language.

**Leader 8:** It is probably the common core piece of it and just getting the CTE teams to see the importance of what they do in relation to it. Also, lack of a counterpart in the building for teachers to collaborate with. District wide, it's great that we have the other high schools. So they do have that opportunity there.

**Leader 9:** It is definitely how we (CTE) fit. I do not want to force anything that does not fit. I would rather have a teacher go work on their own than try and force them. Would it really serve the Family and Consumer Science teacher who teaches foods to go
sit in on a math PLC because she is doing measurements in her course?

**Leader 10:** I think the biggest change is the amount of singletons we have. The second challenge is that teachers. They have so many preps (courses they teach), they do not feel that they have enough time to get it all done. In addition to curriculum development and lesson planning, these teachers have equipment and labs to maintain.

CTE Interview Question 8: What are your perceptions of the importance of CTE programs for students and in your school?

The leaders’ responses to this question varied from perceiving that CTE was important in their schools to their CTE teachers feeling disrespected. However, the majority of the leaders, six out of the ten, stated that the perception was high.

**Leader 1:** CTE programs should support the district goals and the work of the core subjects.

**Leader 2:** The school has a STEM initiative. Career and Technical Education plays a large role in this initiative and is supported by administration, local industry, and by the community.

**Leader 3:** The perception of Career and Technical Education is very high

**Leader 4:** The perception and importance of CTE at this high school is really strong. We really believe that we have to prepare students for postsecondary education. We tell our kids, when they go to a four-year school, the military, or into a trade, you still have to learn. It is our goal that they are ready to enter whatever aspect of their life they want to go into.

**Leader 5:** It used to be one that CTE was for the non college-bound students.
There are still certain areas like auto work even the counselors try to say that stuff. But, we are seeing a different student because we changed our course offerings. The perception is getting better. The teachers are being challenged now by the students to come up with better curriculum.

**Leader 6:** There is a huge importance put on CTE at this school. And, now we are actually seeing the word “career” in public and government documents – which is a huge step forward.

**Leader 7:** The teachers do not feel respected in the district. Truth or not, it is how they feel. However, they are a valued part of the district. This year, I am actually meeting with all of the teachers to send that message.

**Leader 8:** This high school really values the electives and understands the importance of them in a comprehensive high school curriculum and everything that it entails. We have a high minority population, high low-income. I believe the perception is it is valuable for those students who maybe are not going on to college, but you always wanted change that perception too because you also see the value of students who are going to college to get some of those experiences too.

**Leader 9:** High! Strong! It was not that way 18 years ago. Not it is on footing with all of the other divisions. I know this because even when I am in meetings, I do not have to say anything. People will support what we (CTE) do without me saying anything.

**Leader 10:** My perception of the importance of the importance of Career and Technical Education in our school, I see it as mixed. I see it as some people being very much in their ivory tower and being very college prep and cannot imagine anything
having any other importance. And, I see students that have a high IQ in mechanical engineering or anything mechanical hands-on taking our courses. It is not ever measured in anything that we do in testing for our school. So, I think the majority of people see it as a nice offering for electives for students. I think they see it as just life skills. I do not think they see it as how much we do help students prepare for college at the same time because we are not considered a core course.

**Data Collection Summary from Semi-Structured Interviews**

When analyzing the 10 school leaders’ semi-structured interview responses compared to the Illinois Career Cluster Model Framework for Local Implementation and Evaluation of Programs of Study and the Professional Learning Community conceptual frameworks, the following data were present. Table 19 and Table 20 display a summary of the responses to the Career and Technical Education conceptual framework questions. Table 21 and 22 capture the responses as they relate to the Professional Learning Community conceptual framework. While the following tables do not represent every comment made during the semi-structured interviews, the information presented serves as a representative sample of the data displayed previously in this chapter as it relates to each criterion.
Illinois Career Cluster Model Framework for Local Implementation and Evaluation of Programs of Study Conceptual Framework

Table 19

Responses to CTE Conceptual Framework by School Leaders 1-5

<table>
<thead>
<tr>
<th>CTE Questions</th>
<th>Leader 1</th>
<th>Leader 2</th>
<th>Leader 3</th>
<th>Leader 4</th>
<th>Leader 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1: Leading CTE Programs</strong></td>
<td>Teams focus on district literacy goal.</td>
<td>Teams focus on district STEM initiative.</td>
<td>Content area teams meet twice per month to talk about course objectives and students. All teams focus on the district writing initiative. Teams use a school created “grid” to reflect on the three PLC questions.</td>
<td>A lot of singleton teachers and courses. Teachers meet with “job alikes” at sister school. In building teams focus on broader “life style” skills. Leader provides Instructional coaches for teachers.</td>
<td>Late start days twice a month for teams to meet. Teams are focused on working on recruiting more students into their programs. District is moving from “silo” courses to having an aligned curriculum. During the first year of PLC, all teachers focused on the same course to learn the collaboration process.</td>
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<td>Small departments – meet as a large CTE PLC team to share ideas.</td>
<td>Content teams meet every Thursday. Most subjects do not have multiple teachers. Teams focus on broader goals like research and student certifications.</td>
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<td></td>
<td>Leader provides teams time in the summer for curriculum development.</td>
<td>Leader has updated labs and resources.</td>
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<tr>
<td><strong>Question 2: Access, Equity and Opportunity</strong></td>
<td>CTE has had a declining enrollment. “At-risk” students have to take double block of English or reading, thus less time to take an elective.</td>
<td>CTE programs are designed to have multiple entrances and exits to accommodate the various learning styles and abilities. Hire engaging teachers, market courses, and establish middle school programs to recruit students.</td>
<td>Creates a master schedules around CTE, so students are able to take the courses. All CTE academic support comes from the classroom teachers.</td>
<td>Communication and awareness with middle schools of CTE options. Building a similar master schedule between schools for better articulation.</td>
<td>Using PLC model, teachers work within teams to update curriculum and provide industry certification in areas like Adobe. As a result, the program has seen a jump in enrollment of “honor” students.</td>
</tr>
<tr>
<td>Question 3: Alignment and Transition</td>
<td>CTE courses are aligned to state standards. Focusing on enabling students to obtain certifications at the conclusion of programs.</td>
<td>Developed a steering committee to assess CTE programs.</td>
<td>No response</td>
<td>History of a stressed relationship with the community college that now seems back on track via regular articulation meetings. New focus on teaching courses that offer certifications (Adobe, AutoCAD, Microsoft).</td>
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<tr>
<td>Question 4: Enhanced Curriculum and Instruction</td>
<td>Work closely with community college and have articulation/dual credit agreements.</td>
<td>Has established articulation/dual credit agreements with community college. Working on establishing certification programs for students.</td>
<td>Works closely with the carpenters’ union.</td>
<td>Very minimal articulation/dual credit agreements.</td>
<td>Stressed relationships with community college. School has dual/articulated agreements with community college.</td>
</tr>
<tr>
<td>Question 5: Professional Preparation and Development</td>
<td>Declining student enrollment in CTE. Funds have been set aside for professional development as chosen by the teacher.</td>
<td>No response</td>
<td>Recruiting and retaining CTE teachers has been a challenge. The leader works with local universities and unions.</td>
<td>Receive a lot of applicants. Very little turnover of staff. Provide PD whenever needed.</td>
<td>No mention of content specific professional development for teachers. Encourage and support teachers in working within PLC teams to update curriculum.</td>
</tr>
</tbody>
</table>
Question 6: Program Improvement and Accountability

| Teams are required to collect artifacts in a binder which is reviewed by administration. | Some of the teams have common final exams. | Teams have common final exams and reflect together on the results. | Common formative and summative assessments, looking at student work within the building and between schools, connecting to the larger district focused skills. | Common final exams. Some courses have common unit exams. Teams are focusing on updating curriculum. |
| Teams set SMART goals. | Plans are in place to review math and reading scores. | Teams focus conversations on student skill development. | | |

Question 8: Perceptions of Importance of CTE in School

| CTE supports the district goals and the work of the core subjects. | Supported by administration. | “Very high.” | Perception of CTE is really strong. | “Getting better.” |
| | | | | |

Table 20

Responses to CTE Conceptual Framework by School Leaders 6-10

<table>
<thead>
<tr>
<th>CTE Questions</th>
<th>Leader 6</th>
<th>Leader 7</th>
<th>Leader 8</th>
<th>Leader 9</th>
<th>Leader 10</th>
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</thead>
<tbody>
<tr>
<td>Question 1: Leading CTE Programs</td>
<td>Focusing all teams in the school on curriculum mapping.</td>
<td>Significant turn over in leadership of the school and district.</td>
<td>Teams meet every 2 weeks. PLC time has been focused on transitioning curriculum from a block schedule to a traditional schedule.</td>
<td>Small teams. Much of the PLC time is department/school focused lead by department leader.</td>
<td>Teachers collaborate within subject teams.</td>
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<td>Focus of district is reading.</td>
<td>Late start day every Monday with team expectations built in to PD.</td>
<td>Subject teams meet as it seems fit. “Roundtables” with job alike teachers from other schools in the district meet twice a year.</td>
<td>Subject teams meeting together because of common Consumer Education course.</td>
<td>Business and Family &amp; Consumer teams meeting together because of common Consumer Education course.</td>
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<td></td>
<td>Has a once a month PLC-of-the-whole meeting with all teachers of the school.</td>
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<td>Teachers collaborate with job alike teachers at sister school.</td>
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<td>Teams set norms, take minutes, and</td>
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<td>Question 2: Access, Equity and Opportunity</td>
<td>Communicate CTE programs to core teachers and counselors. Design master schedule to best suit students. Academic supports for CTE are provided by the CTE teachers.</td>
<td>Prerequisite model where students cannot proceed to next level without passing previous course is preventing students from taking elective CTE courses. District moved to a seven period day. CTE enrollment has dropped 25%. Promoting CTE courses to female students.</td>
<td>Recruit 8th grade student via school fair and middle school visits. College and Career specialist provides CTE support to students.</td>
<td>Information Processing computer course is required for graduation.</td>
<td>Promote CTE programs via: parent orientations, mailings, and articulations with middle schools.</td>
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<tr>
<td>Question 3: Alignment and Transition</td>
<td>Have partnerships with local hospital and manufacturing companies. No focused communication with middle schools. “Not well.” The course catalog needs updating and school leadership needs to stabilize.</td>
<td>Articulation agreements with community college drives the CTE curriculum School has a College &amp; Career Specialist.</td>
<td>Has a curriculum advisory boards that provide feedback on CTE curriculum. School has a College &amp; Career Specialist.</td>
<td>Curriculum is aligned with national organizations. Leader identifies this as an area of weakness for the school. CTE division does articulate with the middle schools.</td>
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<tr>
<td>Question 4: Enhanced Curriculum and Instruction</td>
<td>Focus on curriculum mapping. School has dual/articulated agreements with community college.</td>
<td>School has dual/articulated agreements with community college. School has dual/articulated agreements with community college.</td>
<td>Has multiple dual/articulation agreements with community college. Beginning to implement certification programs for students (NATEF for Automotive program).</td>
<td>Teams are in the process of learning how to assess students and writing rubrics for “hands-on” projects. School has dual/articulated agreements with community college.</td>
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</tbody>
</table>
### Question 5: Professional Preparation and Development

| Focus on curriculum mapping. Retention of teachers. In like kind courses, teachers are beginning to share curricular ideas. | Leader is challenged with veteran teachers who “do not like kids.” When hiring, leader looks for career changers. Professional development has been provided to help CTE teachers teach reading. | Recruiting is a challenge. When recruiting teachers, tries to appeal to the “family” culture at their school. Tries to embed professional development time during the school day by scheduling teachers with common preparation or lunch periods. | Recruiting is not an issue. Hires based on ability to build rapport with students. Encourages and financially supports CTE teachers being dual certified. Provides funding for teachers to attend content specific workshop. | Leader allocates funds for teacher professional development and encourages teachers to learn. |

### Question 6: Program Improvement and Accountability

| No systematic approach to collecting and reflection on data. Implemented a data warehouse this year. CTE teachers will pilot the new software | Common assessments for courses with multiple sections and more than one teacher | Teams have common assessments, use Scantron achievement series to collect data Teams talk about assessment results | No systematic approach to collecting and reflection on data. Program improvement is based on data collected from postsecondary partners, student surveys, and enrollment data. | Where identified commonalities within the school, teams have been creating common assessments. Common assessments across the district is a work in progress. |

### Question 8: Perception of Importance of CTE in School

| Huge importance in the school. Teachers do not feel respected in the district. | CTE is valuable for students who may not be going to college. “High. Strong.” | Mixed. Majority of people see CTE as a nice offering of electives for students. |

Data gathered from the semi-structured interviews of the CTE leaders gave voice to these data collected from the Illinois Career Cluster Model Career and Technical Education Survey on how the leaders perceived their CTE teams provide students rigorous, relevant, and equitable learning experiences that prepare them for college and
career. Although the leaders interviewed had various educational backgrounds, all of them clearly communicated their perceptions of the current status of the Career and Technical Education program at their schools.

As summarized in Tables 19 and 20, all 10 leaders stated that their CTE teams focused collaborative time on districts’ identified goals or on identified needs of the division or specific content area. In addition, all leaders described structures used by their CTE teams to share resources and work collaboratively with each other within a professional learning community. Eight of the 10 leaders responded on the CTE survey that their schools provide access, equity and opportunity for all students to take a Career and Technical Education course. This quantitative data were supported by descriptive interview data of the various methods the leaders used to ensure all students have opportunities to take a Career and Technical Education course during their four years of high school. However, two leaders also communicated the challenges they encounter when providing access, equity and opportunity because of the structures put in place for students by their school and/or district.

All 10 leaders described how career guidance and real-life experiences were imbedded into the daily work of the Career and Technical Education courses. In addition, all 10 CTE programs offer students dual/articulated credit, or some kind of postsecondary opportunities for one or more of their courses.

None of the 10 school leaders could speak to their CTE teams (or any team in their buildings) using scientific researched collaboration protocols to share ideas and practices. However, all leaders spoke to the processes they use to recruit and retain
qualified teachers and how they provide CTE teachers with professional development opportunities. Also, although many of the leaders described their CTE programs as having a high number of singleton courses and teacher, eight of the 10 leaders interviewed stated that where there were courses taught by multiple teachers, data were collected and reflected using a common final exam.

Overall, the leaders’ perceptions of the importance of CTE programs for their students in their schools varied greatly, from perceiving that CTE was important and supported in their schools to their CTE teachers feeling disrespected. However, the majority of the leaders, six out of the 10, stated that the perception was high.

For this research, to achieve advanced level of progress towards providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences a school had to have been identified at achieving an advanced level of progress in the Career and Technical Education program on five or more of the seven Career and Technical Education framework questions. A summary of these data is displayed in Table 21 and the rubric used to categorize the levels of progress is displayed in Table 22.

Data displayed in Table 21 shows the uneven development of Career and Technical Education programs across the state of Illinois. A good example of this is in Cook County. Cook County schools represent half of the sample schools for this research. These schools show the most variance between overall levels of progress towards providing all students Career and Technical Education programs.
CTE Trend Data by School Demographics

Table 21

Career and Technical Education Level of Progress for Each School

<table>
<thead>
<tr>
<th>CTE Questions</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1:</strong> Leading CTE Programs</td>
<td>Levels of progress towards aligning to district initiatives</td>
<td>District Initiatives</td>
<td>District Initiatives</td>
<td>District Initiatives</td>
<td>Procedural</td>
<td>District Initiative</td>
<td>District Initiative</td>
<td>Procedural</td>
<td>Department Initiatives</td>
<td>Department Initiatives</td>
</tr>
<tr>
<td>Types of teams in building are…</td>
<td>Curriculum Blended</td>
<td>Curriculum Blended</td>
<td>Curriculum Vertical</td>
<td>Curriculum Blended</td>
<td>Beginning to form Blended</td>
<td>Singleton- No Teams</td>
<td>Division Blended Team</td>
<td>Out of building only</td>
<td>Subject Teams only</td>
<td>Subject Teams Only</td>
</tr>
<tr>
<td><strong>Question 2:</strong> Access, Equity and Opportunity</td>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Question 3:</strong> Alignment and Transition</td>
<td>CTE programs are…</td>
<td>Aligned</td>
<td>Advisory Board</td>
<td>No Response to Alignment</td>
<td>Alignment</td>
<td>No Alignment</td>
<td>Alignment</td>
<td>No Alignment</td>
<td>Alignment</td>
<td>Advisory Board</td>
</tr>
<tr>
<td><strong>Question 4:</strong> Enhanced Curriculum and Instruction</td>
<td>CTE programs have…</td>
<td>Non Specific Articulated Credit</td>
<td>Non Specific Articulated Credit</td>
<td>Specific Articulated Credit</td>
<td>No</td>
<td>Non Specific Articulated Credit</td>
<td>Non Specific Articulated Credit</td>
<td>Non Specific Articulated Credit</td>
<td>Specific Articulated Credit</td>
<td>Non Specific Articulated Credit</td>
</tr>
<tr>
<td><strong>Question 5:</strong> Professional Preparation and Development</td>
<td>Recruitment</td>
<td>Not a Challenge</td>
<td>Not a Challenge</td>
<td>Challenge</td>
<td>Not a Challenge</td>
<td>Not a Challenge</td>
<td>Challenge</td>
<td>Challenge</td>
<td>Not a Challenge</td>
<td>Not a Challenge</td>
</tr>
<tr>
<td>PD</td>
<td>Not Specific</td>
<td>No Response</td>
<td>Not Specific</td>
<td>Not Specific</td>
<td>None</td>
<td>Specific</td>
<td>Specific</td>
<td>Not Specific</td>
<td>Not Specific</td>
<td>Not Specific</td>
</tr>
<tr>
<td><strong>Question 6:</strong> Program Improvement and Accountability</td>
<td>Level of progress</td>
<td>Teams collects from data sources</td>
<td>None</td>
<td>Common final exams</td>
<td>Common formative &amp; summative assessments</td>
<td>In process of creating common assessment</td>
<td>Common final exams</td>
<td>Singleton courses singleton teachers</td>
<td>Common assessments</td>
<td>Teams collect from multiple data sources</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Common assessments</td>
</tr>
<tr>
<td>Question 8: Perceptions of Importance of CTE in School</td>
<td>Level of support</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Mixed</td>
<td>High</td>
<td>Low</td>
<td>Mixed</td>
<td>High</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-------</td>
<td>------</td>
<td>-----</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>School Overall Level of Progress</td>
<td></td>
<td>A=5</td>
<td>A=6</td>
<td>A=5</td>
<td>A=6</td>
<td>A=2</td>
<td>A=5</td>
<td>A=2</td>
<td>A=3</td>
<td>A=5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P=3</td>
<td>P=2</td>
<td>P=2</td>
<td>P=2</td>
<td>P=4</td>
<td>P=3</td>
<td>P=2</td>
<td>P=5</td>
<td>P=4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B=1</td>
<td>B=1</td>
<td>B=2</td>
<td>B=1</td>
<td>B=3</td>
<td>B=1</td>
<td>B=5</td>
<td>B=3</td>
<td>B=0</td>
</tr>
</tbody>
</table>

Note: **Green** = Advanced level of progress, **Yellow** = Progressing level of progress, **Red** = Beginning or no level of progress
Table 22

**Career and Technical Education Level of Progress Rubric**

<table>
<thead>
<tr>
<th>CTE Questions</th>
<th>Levels of Progress Criteria</th>
<th>Schools' Overall Level of Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question 1: Leading CTE Programs</strong></td>
<td>Levels of progress towards aligning to district initiatives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A = District initiatives</td>
<td>A=60%</td>
</tr>
<tr>
<td></td>
<td>P = Common district tasks or department initiatives</td>
<td>P=30%</td>
</tr>
<tr>
<td></td>
<td>B = Common procedural tasks</td>
<td>B=10%</td>
</tr>
<tr>
<td>Types of teams in building are…</td>
<td>A = Established blended teams in the building</td>
<td>A=40%</td>
</tr>
<tr>
<td></td>
<td>P = At the beginning stages of working within blended teams</td>
<td>P=40%</td>
</tr>
<tr>
<td></td>
<td>B = Singleton teachers or collaborative teams formed with colleagues outside of the building</td>
<td>B=20%</td>
</tr>
<tr>
<td><strong>Question 2: Access, Equity and Opportunity</strong></td>
<td>A = School provides access, equity, and opportunity to all students.</td>
<td>A=80%</td>
</tr>
<tr>
<td></td>
<td>B = School does not provide access, equity, and opportunity to all students.</td>
<td>P= 0</td>
</tr>
<tr>
<td><strong>Question 3: Alignment and Transition</strong></td>
<td>CTE programs are…</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A = Aligned to an identified set of standards and has an advisory board.</td>
<td>A=20%</td>
</tr>
<tr>
<td></td>
<td>P = Aligned to an identified set of standards</td>
<td>P=50%</td>
</tr>
<tr>
<td></td>
<td>B = Does not align to an identified set of standards and has an advisory board.</td>
<td>B=30%</td>
</tr>
<tr>
<td><strong>Question 4: Enhanced Curriculum and Instruction</strong></td>
<td>CTE programs have…</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A = Specific articulation agreements</td>
<td>A=20%</td>
</tr>
<tr>
<td></td>
<td>P = Non specific articulation agreements</td>
<td>P=70%</td>
</tr>
<tr>
<td></td>
<td>B = Have no articulation agreements</td>
<td>B=10%</td>
</tr>
<tr>
<td><strong>Question 5: Professional Preparation and Development</strong></td>
<td>Recruitment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A = Is not a challenge</td>
<td>A=70%</td>
</tr>
<tr>
<td></td>
<td>B = Is a Challenge</td>
<td>P=0</td>
</tr>
<tr>
<td></td>
<td>Professional development</td>
<td>B=30%</td>
</tr>
<tr>
<td><strong>Question 6: Program Improvement and Accountability</strong></td>
<td>Level of progress</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A = Teams collect and reflect on data</td>
<td>A=20%</td>
</tr>
<tr>
<td></td>
<td>P = Teams have common assessments</td>
<td>P=70%</td>
</tr>
<tr>
<td></td>
<td>B = Teams either are just beginning to develop common assessments or do not have them at all</td>
<td>B=10%</td>
</tr>
<tr>
<td><strong>Question 8: Perceptions of Importance of CTE in School</strong></td>
<td>Level of support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A = High</td>
<td>A=60%</td>
</tr>
<tr>
<td></td>
<td>P = Mixed</td>
<td>P=30%</td>
</tr>
<tr>
<td></td>
<td>B = Very little or no support</td>
<td>B=10%</td>
</tr>
</tbody>
</table>
Data Trends

Specifically, the following trends were identified by demographic. There does not appear to be any common trends in the CTE data in the sample schools by county, nor does there seem to be any apparent linkage of the trend data to the leader’s position of each school. Furthermore, there does not appear to be any common trends by number of students enrolled in the sample schools, nor specifically to the student demographic (White, Black, Hispanic, low-income, and IEP). Regarding the number of years a school has been operating within a professional learning community structure, this sample population data did not indicate that the number of years Career and Technical Education teams collaborate within a professional learning community has a significant impact on the overall progress of achieving an advanced levels of progress towards providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences. For example, both school #4 and school #7 have been operating within a professional learning community structure for seven years. School #4 is achieving at an advanced level of progress in Career and Technical Education, while the data collected from school #7 indicate that teams are at the beginning stages.

However, there is a trend in data regarding academic achievement as it relates to the 2011 Illinois graduating class composite ACT score of the sample schools. The five schools (#3, #5, #6, #7, #8) that scored under the state average of 20.6 are also not achieving at the advanced level of progress in providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences. This same trend holds true for four of these five sample schools as it relates to the average graduation rate.
The 2011 Illinois state average graduation rate was 83.8. Four of the ten sample schools (#3, #5, #7, #8) achieved below this average and achieve at only the Progressing or Beginning levels of progress on providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences.

A second and final trend that is revealed by this research is in the number of Career and Technical Education career clusters offered at each of the sample schools. Six of the ten schools (#2, #4, #6, #8, #9, #10) offer more than half of the state offered Career and Technical Education career cluster courses. All of these six schools are either achieving at an advanced level of progress towards providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences or their leaders perceived that they are on their way to achieving an advanced level.

Professional Learning Community Conceptual Framework

Table 23

Responses to PLC Conceptual Framework by School Leaders 1-5

<table>
<thead>
<tr>
<th>PLC Characteristics</th>
<th>Leader 1</th>
<th>Leader 2</th>
<th>Leader 3</th>
<th>Leader 4</th>
<th>Leader 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared Mission, Vision, Values, Goals</td>
<td>Teams focus on the district’s three major goals.</td>
<td>Teams focus on the school’s STEM initiative.</td>
<td>Small division – content area teams focus on vertical articulation and on district’s writing initiative.</td>
<td>Teams focus on district’s initiative of teaching the seven survival skills, critical thinking, and problem solving. Moved from team norms to shared school values.</td>
<td>District is moving from “silo” courses to having an aligned curriculum. CTE teams are beginning to establish norms.</td>
</tr>
<tr>
<td>Collaborative Teams Focused on Learning</td>
<td>CTE teachers meet as one large team to share ideas, review and revise “skills,” and focus on district initiatives.</td>
<td>Even though the teachers are all teaching different courses, they still rely on each other and work together to maintain strong programs.</td>
<td>Vertical articulation content area team meet twice a month</td>
<td>Between building “job alike” teachers work together. In building, the teams focus on the broader life</td>
<td>No Evidence</td>
</tr>
<tr>
<td><strong>Collective Inquiry</strong></td>
<td>For courses with multiple teachers, summer curriculum time is provided.</td>
<td>skills that bind them together.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teams focus conversations on district initiatives</td>
<td>Teams focus conversation on research activities/projects that can be applied in any discipline.</td>
<td>Vertical articulation content area teams meet twice a month.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teams focus conversations on research activities/projects that can be applied in any discipline.</td>
<td>Teams focus conversations on seven survival skills, critical thinking, and problem solving.</td>
<td>After the leader modeled establishing norms and working together a few times, the teams are now taking the responsibility to work collaboratively.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Action Orientation and Experimentation</strong></th>
<th>No Evidence</th>
<th>No Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singleton teachers have conversations and rely on each other to maintain strong CTE programs.</td>
<td>Construction teachers are sharing and revising curriculum to prepare students for careers in Technology and Engineering.</td>
<td>The teams’ shared values are guiding collaborative conversations.</td>
</tr>
<tr>
<td>Teachers are moving away from operating as silos to working collaboratively to improve the CTE course offerings in the school.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Commitment to Continuous Improvement</strong></th>
<th>Professional development is provided using Perkins grant money.</th>
<th>Address 3 PLC questions on electronic grid: What do we want them to learn? How are we going to do this? What are we going to do if they don’t?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional development is provided to teachers based on individual need.</td>
<td>Teachers are transitioning from operating as silos to creating common assessments.</td>
<td></td>
</tr>
<tr>
<td>After the leader modeled best practice for collaborating within teams, teachers are now learning together.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Results Orientation</strong></th>
<th>All teams are required to collect artifacts – administration periodically reviews this information. Teams set and reflect on SMART goals. Also, teams reflect on mathematics and reading scores.</th>
<th>Teams have common final exams. Teams have common formative and summative assessments, looking at student work within the building and between schools, connecting to the larger district focused skills.</th>
<th>Teachers are transitioning from operating as silos to creating common assessments.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not every content area has a common final exam.</td>
<td>Teams have common final exams.</td>
<td>Teams have common formative and summative assessments, looking at student work within the building and between schools, connecting to the larger district focused skills.</td>
<td>Teachers are transitioning from operating as silos to creating common assessments.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Question 7: Challenges of CTE in PLC</strong></th>
<th>Singleton courses and singleton teachers sharing common ideas and assessments.</th>
<th>Time</th>
<th>Singleton teachers, Teachers teaching multiple courses, Balancing time between maintaining labs and curriculum development.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitting in and supporting the core courses</td>
<td>Time, staying focused on the larger skills, perception of others, enrollment anxiety.</td>
<td>Time, staying focused on the larger skills, perception of others, enrollment anxiety.</td>
<td>Singleton teachers, Teachers teaching multiple courses, Balancing time between maintaining labs and curriculum development.</td>
</tr>
</tbody>
</table>
Table 24

Responses to PLC Conceptual Framework by School Leaders 6-10

<table>
<thead>
<tr>
<th>PLC Characteristics</th>
<th>Leader 6</th>
<th>Leader 7</th>
<th>Leader 8</th>
<th>Leader 9</th>
<th>Leader 10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shared Mission, Vision, Values, Goals</strong></td>
<td>Teams are focused on district initiative of developing curriculum maps for all courses.</td>
<td>Teams focus on the district reading initiative.</td>
<td>Teams focusing on transitioning curriculum from a block schedule to a traditional schedule.</td>
<td>Much of the PLC time is department/school focused lead by department leader.</td>
<td>Teams focusing on preparing students for a “career in life.” Teams set norms, take minutes, and establish student learning goals.</td>
</tr>
<tr>
<td><strong>Collaborative Teams Focused on Learning</strong></td>
<td>No Evidence</td>
<td>Teams do work towards common goals. However, there are a lot of singleton teachers. These teachers meet with job alike at other schools.</td>
<td>Subject teams meet as it seems fit. “Roundtables” with job alike teachers from all schools in the district met twice a year.</td>
<td>Teachers collaborate within subject teams. Teachers meet with job alike teachers at sister school.</td>
<td></td>
</tr>
<tr>
<td><strong>Collective Inquiry</strong></td>
<td>Teams are focused on curriculum mapping</td>
<td>Teams are focused on district reading initiative</td>
<td>No Evidence</td>
<td>Business Education team focusing on new curriculum. Technology Education team focusing on vertical articulation of their engineering program.</td>
<td>No Evidence</td>
</tr>
<tr>
<td><strong>Action Orientation and Experimentation</strong></td>
<td>Singleton teachers are learning new instructional strategies together.</td>
<td>No Evidence</td>
<td>No Evidence</td>
<td>No Evidence</td>
<td>No Evidence</td>
</tr>
<tr>
<td><strong>Commitment to Continuous Improvement</strong></td>
<td>Professional development is tailored to the individual needs of the teacher/team</td>
<td>Professional development is focused on district initiatives and brought to the teachers/teams</td>
<td>Master schedule is created to allow teachers who teach similar subjects to have common planning time.</td>
<td>School/district encourages and supports teachers earning masters degrees – also encourages and supports dual certifications.</td>
<td>Professional development is supported using Perkins grant money</td>
</tr>
<tr>
<td><strong>Results Orientation</strong></td>
<td>Teams have common final exams. The district is rolling out a data warehouse this year. Teachers will begin to look at EXPLORE.</td>
<td>Teams are beginning to look at reading data.</td>
<td>Teams have common assessments</td>
<td>Teams reflect on student surveys and course enrollment.</td>
<td>Teams have common assessments.</td>
</tr>
</tbody>
</table>
According to DuFour, DuFour, and Eaker (2008), schools cannot continuously improve if the stakeholders do not “work collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve” (p. 14). They believe highly effective teams must share the following characteristics:

1. Shared mission, vision, values, goals
2. Collaborative teams focused on learning
3. Collective inquiry
4. Action orientation and experimentation
5. Commitment to Continuous improvement
6. Results orientation

Data collected from these 10 semi-structured interviews revealed that these ten school leaders who are responsible for the Career and Technical Education teams believe that they are attempting to implement the six professional learning community characteristics into their practice. However, all of leaders spoke to the challenges they encounter when establishing interdependent blended teams within a division with a majority of singleton teachers. Although all of the leaders believe that their teams are working towards some form of shared mission, vision, values, or goals, only three leaders
stated that their teams have established norms and only one leader spoke in detail to supporting CTE teams working together to build shared knowledge and best practices for achieving specific student-learning goals. In addition, none of the leaders indicated the use scientific collaborative protocols to share ideas and practices. Additionally, only four of the ten leaders provided evidence of their CTE teams are “learning by doing” as described in the Characteristic #4: Action Orientation and Experimentation of a professional learning community.

Although the leaders at these ten public high schools described that leading blended Career and Technical Education teams is a challenge, these leaders believe that their teams are working towards developing common summative assessments in the courses with multiple teachers, with eight out of ten stating that their teams do reflect on some form of data to improve student learning. Also, in four of the ten study schools, the leaders are developing and supporting structures for the singleton teacher to meet with a teacher who teaches the same subject, also known as “job alike,” at another school to talk about curriculum, instruction, and assessment. Furthermore, although the commitment to continuous improvement does not seem to be dependent on job-embedding collective inquire at these high schools, nine out of these ten leaders communicated that they encourage and support their CTE teachers in continuous professional development of their content area and instructional practices. A summary of these data is displayed in Table 25.
Table 25

*Summary of PLC Characteristic Data for the 10 Sample High Schools*

<table>
<thead>
<tr>
<th>Professional Learning Community Characteristics</th>
<th>10 Sample Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shared Mission, Vision, Values, Goals</strong></td>
<td>All schools are working towards some form of shared mission, vision, values, or goals.</td>
</tr>
<tr>
<td><strong>Collaborative Teams Focused on Learning</strong></td>
<td>8 of 10 schools have some form of collaborative structure for CTE teachers.</td>
</tr>
<tr>
<td><strong>Collective Inquiry Conversations are…</strong></td>
<td>8 of 10 teams have some form of collective inquiry.</td>
</tr>
<tr>
<td><strong>Action Orientation and Experimentation</strong></td>
<td>4 of the leaders provided evidence that their CTE teams are “Learning by Doing.”</td>
</tr>
<tr>
<td><strong>Commitment to Continuous Improvement</strong></td>
<td>All but one school provides some form of professional development for teachers.</td>
</tr>
<tr>
<td><strong>Results Orientation</strong></td>
<td>8 of 10 schools reflect on some form of data to improve student learning.</td>
</tr>
</tbody>
</table>

Similar to data collected for the Career and Technical Education conceptual framework, to achieve an *advanced* level of progress towards providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences in a professional learning community structure, a school has to be identified at achieving an *advanced* level of progress on at least four of the six professional learning community characteristics as defined by DuFour, DuFour, and Eaker (2008) and have no *beginning* levels. A summary of these data is displayed in Table 26 and the rubric categorizing the levels of progress is displayed in Table 27.
Professional Learning Community Trend Data by School Demographics

Table 26

*Professional Learning Community Level of Progress for Each School*

<table>
<thead>
<tr>
<th>PLC Characteristics</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shared Mission, Vision, Values, Goals</strong></td>
<td>District Initiatives</td>
<td>District Initiatives</td>
<td>District Initiatives</td>
<td>District Initiatives</td>
<td>Procedural</td>
<td>District Initiatives</td>
<td>District Initiatives</td>
<td>Procedural</td>
<td>Department Initiatives</td>
<td>Department Initiatives</td>
</tr>
<tr>
<td>Level of progress towards aligning to district initiatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Collaborative Teams Focused on Learning</strong></td>
<td>Curriculum Blended</td>
<td>Curriculum Blended</td>
<td>Vertical</td>
<td>In building: Blended Out: Job-alike</td>
<td>Beginning to form Curriculum Blended</td>
<td>Singleton - No Teams</td>
<td>Division Blended Team</td>
<td>In building: Singletons Out: Job-alike</td>
<td>In building: Subject Teams Only Out: Job-alike</td>
<td></td>
</tr>
<tr>
<td>Types of Teams</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Collective Inquiry</strong></td>
<td>Focused</td>
<td>Focused</td>
<td>Focused</td>
<td>Focused</td>
<td>Not Focused</td>
<td>Focused</td>
<td>Focused</td>
<td>No Response/ Evidence</td>
<td>Teams with commonalities are focused</td>
<td>No Response/ Evidence</td>
</tr>
<tr>
<td>Conversations are...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action Orientation and Experimentation</strong></td>
<td>No Response/ Evidence</td>
<td>Blended Teams relying on each other to design strong curriculum</td>
<td>Vertical team is sharing &amp; revising curriculum</td>
<td>Teams “shared values” guiding conversations</td>
<td>Transitioning between director led to team led</td>
<td>Singleton teachers are learning new instruction strategies together</td>
<td>No Response/ Evidence</td>
<td>No Response/ Evidence</td>
<td>No Response/ Evidence</td>
<td>No Response/ Evidence</td>
</tr>
<tr>
<td>Level of progress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commitment to Continuous Improvement</strong></td>
<td>Non-specific plan</td>
<td>No Response/ Evidence</td>
<td>Specific plan</td>
<td>Non-specific plan</td>
<td>Non-specific plan</td>
<td>Non-specific plan</td>
<td>Specific plan</td>
<td>Specific plan</td>
<td>Specific plan</td>
<td>Non-Specific plan</td>
</tr>
<tr>
<td>Teacher professional development is...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Results Orientation</td>
<td>Teams Collects from data sources</td>
<td>Common final exams</td>
<td>Common formative &amp; summative assessments</td>
<td>In process of creating common assessment</td>
<td>Common final exams</td>
<td>Singleton courses singleton teachers</td>
<td>Common assessments</td>
<td>Teams collect from multiple data sources</td>
<td>Common assessments</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>-------------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------</td>
<td>-------------------</td>
<td>--------------------------------------</td>
<td>------------------</td>
<td>------------------------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Levels of progress</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Challenges of CTE in PLC</td>
<td>Connect to Common Core</td>
<td>Singletons</td>
<td>Time</td>
<td>Time &amp; Perceptions of others</td>
<td>Singletons</td>
<td>Knowledge of best practices</td>
<td>Singletons</td>
<td>Singletons Connect to Common Core</td>
<td>Singletons</td>
<td></td>
</tr>
<tr>
<td>School Trends</td>
<td>A=4 P=1 B=1</td>
<td>A=4 P=0 B=2</td>
<td>A=5 P=1 B=0</td>
<td>A=4 P=2 B=0</td>
<td>A=0 P=3 B=3</td>
<td>A=2 P=3 B=1</td>
<td>A=3 P=1 B=2</td>
<td>A=1 P=4 B=1</td>
<td>A=0 P=4 B=2</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Green = Advanced level of progress, Yellow = Progressing level of progress, Red = Beginning or no level of progress*
Table 27

Professional Learning Community Level of Progress Rubric

<table>
<thead>
<tr>
<th>Professional Learning Community Characteristics</th>
<th>Level of Progress Criteria</th>
<th>Schools’ Overall Level of Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shared Mission, Vision, Values, Goals</strong></td>
<td>A = District initiatives</td>
<td>A=60%</td>
</tr>
<tr>
<td></td>
<td>P = Common district tasks or department initiatives</td>
<td>P=20%</td>
</tr>
<tr>
<td></td>
<td>B = Common procedural tasks</td>
<td>B=20%</td>
</tr>
<tr>
<td><strong>Collaborative Teams Focused on Learning</strong></td>
<td>A = Established blended teams in the building</td>
<td>A=40%</td>
</tr>
<tr>
<td></td>
<td>P = At the beginning stages of working within blended teams</td>
<td>P=40%</td>
</tr>
<tr>
<td></td>
<td>B = Singleton teachers or collaborative teams formed with colleagues outside of the building</td>
<td>B=20%</td>
</tr>
<tr>
<td><strong>Collective Inquiry Conversations are…</strong></td>
<td>A = Focused</td>
<td>A=60%</td>
</tr>
<tr>
<td></td>
<td>P = Not focused</td>
<td>P=20%</td>
</tr>
<tr>
<td></td>
<td>B = No evidence or no response</td>
<td>B=20%</td>
</tr>
<tr>
<td><strong>Action Orientation and Experimentation</strong></td>
<td>A = Established teams actions</td>
<td>A=20%</td>
</tr>
<tr>
<td></td>
<td>P = Teams/teachers taking action together</td>
<td>P=20%</td>
</tr>
<tr>
<td></td>
<td>B = No evidence or no response</td>
<td>B=60%</td>
</tr>
<tr>
<td><strong>Commitment to Continuous Improvement</strong></td>
<td>A = Specific professional development is provided</td>
<td>A=40%</td>
</tr>
<tr>
<td></td>
<td>P = Professional development is provided when need is shown</td>
<td>P=50%</td>
</tr>
<tr>
<td></td>
<td>B = No professional development is provided</td>
<td>B= 10%</td>
</tr>
<tr>
<td><strong>Results Orientation</strong></td>
<td>A = Teams collect and reflect on data</td>
<td>A=20%</td>
</tr>
<tr>
<td></td>
<td>P = Teams have common assessments</td>
<td>P=50%</td>
</tr>
<tr>
<td></td>
<td>B = Teams either are just beginning to develop common assessments or do not have them at all</td>
<td>B=30%</td>
</tr>
</tbody>
</table>

Generally, the results of these data display the uneven development of establishing a professional learning community structure within Career and Technical Education in public high schools across the state of Illinois. Similar to data collected for the Career and Technical Education conceptual framework, the data displayed in Table
25 shows a great variance of the level of progress the sample schools are making toward implementing a professional learning community structure within the Career and Technical Education program. There does not appear to be any common trends regarding professional learning communities by county in the sample schools nor does there seem to be any apparent linkage of the trend data to the leader’s position of each school. Furthermore, there does not appear to be any common trends by number of students enrolled in the sample schools, nor specifically to the student demographic (White, Black, Hispanic, low-income, and IEP). Where there were trends in the data for the ACT composite score and graduation rate in the Career and Technical Education framework, there were no clear trends as they relate to the Professional Learning Community conceptual framework, nor were there any trends as they relate to the number of CTE career cluster courses offered in the schools. The most interesting “non-trend” was in the demographic category of *Years of PLC in School*. These data revealed that the number of years a school collaborated within a professional learning community structure did not necessarily advance the progress of achieving all six of the PLC characteristics. For example, both School #4 and #7 have been operating within a professional learning community structure for seven years, School #4 is achieving at the *advanced* level of progress, but School #7 is only at the *progressing* level. Furthermore, School #3 has only had an established professional learning community structure for three year and is currently operating at an *advanced* level.
Presentation of Data Summary

The methodology that was used to conduct this research was a mixed method two-tier case study. Tier one consisted of a survey administered to 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago Public School system. Using the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework as a conceptual framework (see Appendix B), this survey asked leaders questions about what CTE programs their schools offered students and how they provided these students rigorous, relevant, and equitable learning experiences that prepared them for college and career within these programs. In addition, the survey asked leaders if their schools were identified as professional learning community schools, as defined by DuFour, DuFour, and Eaker (2008).

The data from the surveys were displayed in Table 1 and addressed dissertation research question 1: *According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework? If not, what courses are they providing students?* The data collected from the surveys showed that according to the perceptions of the 72 Career and Technical Education leaders, they are providing students CTE courses as defined by the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework*. The highest percentage rate response was on Survey Question 2 with 69 of 72 (95.8%) leaders responding that all students do have opportunities to take Career and Technical Education courses at their schools. The only area where the data displayed a
low percentage was on Survey Question 9 with only 46 of the 72 (63.9%) of the leaders responded that data is collected to evaluate and improve their CTE programs.

After all of the tier one surveys were collected, compiled, and analyzed, 10 Career and Technical Education leaders, outside of Chicago Public Schools, whose schools met the identified criteria of providing a successful CTE program within professional learning community were interviewed. These leaders were asked a series of eight semi-structured interview questions about how the blended CTE teams within their schools provided students rigorous, relevant, and equitable learning experiences that prepared them for college and career. Their responses have been displayed in both narrative and graphic form in this chapter. The Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study Framework, and the six Professional Learning Community characteristics as defined by DuFour, DuFour, and Eaker (2008) were then used as the conceptual frameworks to analyze these interview data. In Chapter V, these data will be analyzed to answer dissertation research questions two, three, four and five.
CHAPTER V  
DISCUSSION  

Overview  

This chapter provides an overview of the research methods, a summary of the research findings, and connections between this research study and related literature. Also addressed in this chapter are the limitations of this two-tiered study and recommendations for additional research.

The purpose of this chapter is to analyze the data collected from the 72 surveys and 10 semi-structured interviews. Data collected from the interviews were analyzed through the conceptual frameworks of the Illinois Career Cluster Model Framework for Local Implementation and Evaluation of Programs of Study and the Professional Learning Community framework.

Summary of Rationale and Research Methods  

The purpose of this dissertation study was to examine how Illinois public high school Career and Technical Education educational leaders employ best practices in providing all students rigorous, relevant, and equitable learning experiences within a professional learning community structure and to specifically address the following five questions:
1. According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework? If not, what courses are they providing students?

2. According to the perceptions of Career and Technical Education leaders, how are they using the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework to develop and continually improve CTE programs in their schools?

3. According to the perceptions of Career and Technical Education leaders, how are they implementing professional learning communities to continually improve Career and Technical Education learning experiences for all students?

4. What are the perceptions of the current Career and Technical Education leaders concerning the importance of CTE programs for students and in their schools?

5. What are the implications of this research for educational leaders?

The first question was addressed in Chapter IV by the responses to a 13-question survey from 72 (12%) Illinois public high school Career and Technical Education leaders. Data collected revealed that according to the perceptions of the 72 Career and Technical Education leaders, they are all providing students CTE courses as defined by the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study*.
Study framework. The only area where these data displayed a low percentage was on Question 9: Are there data collected each year used to evaluate and improve the Career and Technical Education program? Only 46 of the 72 (63.9%) of the leaders responded that data are collected to evaluate and improve their CTE programs. An overview of the survey data is displayed in Table 16 within Chapter IV.

Research questions two, three, and four were answered after collecting qualitative interview data from 10 semi-structured one-on-one interviews conducted between August 14 and October 6, 2012. The analysis for each question is below.

Conclusions

Research Question 2: According to the perceptions of Career and Technical Education leaders, how are they using the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework to develop and continually improve CTE programs in their schools?

The 2006 reauthorization of the Carl D. Perkins Career and Technical Education Improvement Act (Perkins IV) required states to offer programs that “comprise academic, career, and technical content that prepares students to make successful transitions to postsecondary education and the workplace” (Perkins Collaborative Resource Network, 2012). As a result a 16-career cluster model system was designed. This career cluster framework was designed to combine rigorous academics with Career and Technical Education to provide all students with a clear path to their future (Jankowski et al., 2009, p. 9). As of the date of this research, seven of the 16 clusters have been formally adopted in Illinois. Many of these programs are supported financially through the national Perkins
grant and through the Career and Technical Education of Illinois grant. In addition, because it is the expectation that all Illinois public high schools, regardless of size, location, and resources, prepare their students for college and career, the Illinois Community College Board and the Illinois State Board of Education provides school leaders a program of study self-assessment tool to use to assess the current state of individual high school programs. This tool is called, the *Illinois Career Cluster Model Framework for Local Implementation and Evaluation of Programs of Study* and was used as a conceptual framework for this research study.

Data collected from the 72 surveys of this research study provided evidence that all 16 career clusters are currently being offered in Illinois public high schools, indicating that schools are not necessarily waiting for state guidance to revise existing or introduce new programs of study into the Career and Technical Education curriculum. Furthermore, the 10 school leaders interviewed for this research study perceive that their schools are providing students a rigorous, relevant, and equitable Career and Technical Education learning experiences as it relates to the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework, with three schools at an advanced level of progress, six schools at the progressing level of progress, and one school at the beginning level of progress. The majority of school leaders feel that they: 1) align the work of the Career and Technical Education program with district initiatives (Principle 1); 2) provide access, equity and opportunity to all students (Principle 2); 3) align programs and transition students to postsecondary opportunities through conversations with local industry and articulation agreements with local colleges.
(Principles 3 & 4); and, 4) do not find it a challenge to professionally prepare and
develop their teachers (Principle 5). The Illinois Career Cluster Model Framework
principle that the 10 school leaders found the most challenging is Principle 6: *Program
improvement and accountability*. Although seven of the ten schools are collecting data,
only two of those schools are collecting and reflecting on data to plan, implement, and
assess their CTE programs. As a result, the *Flywheel Effect* of continuous improvement
that Jim Collins (2006) describes as, “relentlessly pushing a giant heavy flywheel in one
direction, turn upon turn, building momentum until a point of breakthrough, and beyond,”
(p. 14) is not taking place for eight of the 10 Career and Technical Education programs in
this study, thus not fully providing a rigorous, relevant, and equitable learning experience
for all students that prepare them for college and career.

In addition to schools falling short on Career and Technical Education program
improvement and accountability, this research reveals that in schools where the
composite ACT score and graduation rate are below the state average, the CTE programs
are progressing at a slower rate of implementation on all six of the *Illinois Career Cluster
Model Local Implementation and Evaluation of Programs of Study framework* principles
as compared to their counterparts who are meeting or exceeding the state average in
program implementation. This trend in data suggests possible connections between
providing all students a rigorous, relevant, and equitable Career and Technical Education
learning experience to the overall success rate of the school transitioning students to
postsecondary education and the workplace. A summary of these data is displayed in
Table 28.
Table 28

Levels of Progress Schools Made Towards the CTE Framework

<table>
<thead>
<tr>
<th>School</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 Graduating Class ACT</td>
<td>23.4</td>
<td>22.3</td>
<td>17.4</td>
<td>23.8</td>
<td>17.0</td>
<td>19.1</td>
<td>17.0</td>
<td>19.6</td>
<td>25.2</td>
<td>24.8</td>
</tr>
<tr>
<td>Composite Score State Average 20.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduation Rate State Average 83.8</td>
<td>96.6</td>
<td>91.4</td>
<td>65.8</td>
<td>93.6</td>
<td>74.9</td>
<td>88.0</td>
<td>67.3</td>
<td>83.7</td>
<td>95.4</td>
<td>92.5</td>
</tr>
<tr>
<td>Overall Level of Progress Towards the CTE Principles</td>
<td>A=5</td>
<td>A=6</td>
<td>A=5</td>
<td>A=6</td>
<td>A=2</td>
<td>A=5</td>
<td>A=2</td>
<td>A=3</td>
<td>A=5</td>
<td>A=2</td>
</tr>
<tr>
<td>P=3</td>
<td>P=2</td>
<td>P=2</td>
<td>P=4</td>
<td>P=3</td>
<td>P=2</td>
<td>P=5</td>
<td>P=4</td>
<td>P=7</td>
<td>P=4</td>
<td>P=7</td>
</tr>
<tr>
<td>B=1</td>
<td>B=1</td>
<td>B=2</td>
<td>B=1</td>
<td>B=3</td>
<td>B=1</td>
<td>B=5</td>
<td>B=3</td>
<td>B=0</td>
<td>B=0</td>
<td>B=0</td>
</tr>
</tbody>
</table>

Note: A = Advanced level of progress, P = Progressing level of progress, B = Beginning or no level of progress

Until now, there has been no published research study that used the Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework to assess the current state of schools’ Career and Technical Education program. Although the original purpose of this instrument was designed to be used by school leaders as a program self-assessment, it has proven to be a useful tool to gain insight on how well Illinois public high schools are progressing towards preparing students for college and career. Assuming that data collected from the 10 schools in this study are a sample of the public high schools in Illinois, there is a lot of work to be done for leaders to get the “flywheel of continuous improvement moving” in the right direction towards preparing all students for college and career. This study provides evidence that this is particularly important for schools that are currently performing below the state average academically. If leaders invest time and resources into improving Career and
Technical Education programs, this research provides evidence that it could improve the overall academic success of all students in their school.

**Research Question 3:** According to the perceptions of Career and Technical Education leaders, how are they implementing professional learning communities to continually improve Career and Technical Education learning experiences for all students?

Educational mandates such as the 2011 reauthorization of the Elementary and Secondary Education Act and the No Child Left Behind Act of 2001, as well as the 2009 introduction to the National Common Core State Standards, require educational leaders to look for new methods and structures to improve student learning. Since not all high school Career and Technical Education programs in Illinois have multiple teachers teaching the same courses, teachers with diverse experiences and expertise working collaboratively in professional learning community teams is an important component in developing and implementing programs of study that prepare students for college and career.

Of the 72 leaders whom responded to the research survey, 30 responded that their schools are identified as a professional learning communities, 11 schools met the criteria for this research study, and 10 of the 11 leaders were interviewed regarding their perceptions of how they are implementing professional learning communities to continually improve Career and Technical Education learning experiences for all students. Data collected from these 10 semi-structured interviews revealed that the school leaders responsible for the Career and Technical Education teams believe that they are
attempting to implement the six professional learning community characteristics into their practice. However, all of leaders spoke to the challenges they encounter when establishing interdependent blended teams within a division of a majority of singleton teachers. These interview statements regarding singleton teachers matched trend data collected on the progress Career and Technical Education teams are making towards the forth professional learning community characteristic: Action Orientation and Experimentation. Only two of the 10 schools are progressing at an advanced level, providing evidence that the CTE teams have not yet developed collaborative structures needed to take action and “learn by doing” together.

According to DuFour, DuFour, and Eaker (2008), teams are action-oriented when: “They move quickly to turn aspirations into action and visions into reality. They understand that the most powerful learning always occurs in a context of taking action, and they value engagement and experience as the most effective teachers” (p. 16).

However this research provides evidence that for teams that are comprised of multiple singleton teachers, like in Career and Technical Education, finding their common purpose so they can take collaborative action to improve student learning is a challenge. If leaders want singleton teachers to work interdependently on a blended team to achieve common student learning goals, they need to help these teachers learn, value, and then redefine the six characteristics of a professional learning community to meet their unique needs.

**Research Question 4:** What are the perceptions of the current Career and Technical Education leaders concerning the importance of CTE programs for students and in their schools?
Although the 2006 reauthorization of the Carl D. Perkins Career and Technical Education Improvement Act (Perkins IV) may have been one of the most pivotal acts for vocational education, the schools in this study show that not all high schools in Illinois have put the same emphasis on preparing all students for college and careers. The leaders’ perceptions of the importance of Career and Technical Education programs for their students in their schools varied greatly, from perceiving that CTE was important and supported in their schools to their CTE teachers feeling disrespected. However, the majority of the leaders, six out of the ten, stated that the perception was high.

Career and Technical Education programs have been in public high schools since the early 1900’s. However, it has only been in the past six years that the reauthorization of the Carl D. Perkins Career and Technical Education Improvement Act (Perkins IV) that there has been a focus on improving curriculum to meet the needs of preparing all students for college and career. Therefore, it is not a surprise that data collected from this research on the perception of the importance of Career and Technical Education is mixed. Six years is a short amount of time for states and for individual school leaders to revise programs of study and to change the image of CTE being a program only for students who are not going to college. As Michael Fullan (2001) states in his book, *Leading in a Culture of Change*, “Remember that a culture of change consists of great rapidity and nonlinearity on the one hand and equally great potential for creative breakthroughs on the other. The paradox is that transformation would not be possible without accompanying messiness” (p. 31).
In addition, the new focus on the Common Core Standards in Illinois has added to the complexity of the perception of Career and Technical Education. Although the standards do describe college and career readiness as the ability “to succeed in entry-level, credit-bearing academic college courses and in workforce-training programs” (Common Core State Standards Initiative FAQ, 2011), it does not provide guidance for the employability or career specific skills that are taught in the Career and Technical Education courses. Therefore, school leaders and the communities that they represent might not perceive an immediate need for preparing their students for future careers or just not understand the meaning of “college and career.”

**Research Question 5:** *What are the implications of this research for educational leaders?*

Career and Technical Education has changed a lot since its debut in the early 1900’s when the United States transitioned from an agricultural to a manufacturing economy. No longer are CTE programs only training students for specific vocations. Career and Technical Education offer programs of study that “comprise academic, career, and technical content that prepares students to make successful transitions to postsecondary education and the workplace” (Perkins Collaborative Resource Network, 2012). Furthermore, educational mandates such as the 2010 reauthorization of the Elementary and Secondary Education Act and organizations such as the Partnership for 21st Century Skills, obligate educational leaders to prepare all student for college and career. As described by the Partnership for 21st Century Skills, for students to be successful in the 21st century, they must have a solid background in the core subjects and
in the 21st Century Themes (learning and innovation skills, information, media, and technology skills, and, life and career skills). The 2009 Common Core State Standards Initiative, which has been adopted by Illinois, has begun to address the core subjects. Although the Common Core Standards provide a robust framework to guide the core academics, these standards do not specifically address career readiness. Career readiness skills as described by the 21st Century Themes are learned in Career and Technical Education programs. These programs are comprised of, “academic, career, and technical content that prepares students to make successful transitions to postsecondary education and the workplace” (Perkins Collaborative Resource Network, 2006). Therefore if high schools do not provide rigorous, relevant, and equitable CTE programs of study, there will be a significant gap in providing students a comprehensive education of preparing them to college and career.

Data collected from this research study provides evidence that Illinois public high schools are providing CTE programs to their students. However, this research also reveals that the level of progress these schools are making towards providing a rigorous, relevant, and equitable Career and Technical Education learning experience for all students is mixed. In addition, data from this research study shows schools that do not provide rigorous, relevant, and equitable Career and Technical Education learning experience to all students are also achieving under the Illinois state average in both the composite ACT score and in the graduation rate. This trend in data suggests possible connections between providing students Career and Technical Education programs of study to their overall success of transitioning to college and career.
Knowing that data collected from this research represents a sample of Illinois public schools and assuming that a strong Career and Technical Education program equals a higher success rate for preparing students for college and career, educational leaders need to invest time and resources into improving and aligning their CTE programs of study. Also, leaders need to investigate researched based Career and Technical Education programs of study that align to the core subjects and address the current and future career readiness needs of their students. This research shows that this is not currently happening in all Illinois public high schools.

Educational literature provides a strong case for why schools should operate within a professional learning community structure. DuFour, DuFour, and Eaker (2008) suggest that teacher teams working together in a collaborative environment hold the power to improve student achievement. According to these authors, schools cannot continuously improve if the stakeholders do not “work collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve” (p. 14). This research study provides evidence that Career and Technical Education teams are attempting to work within professional learning communities. However there is great variance of the level of progress the CTE programs in this study are making toward implementing PLC structures. A majority (six of 10) of the leaders interviewed identified the biggest challenge to implementation is due to the high number of singleton teachers on these teams.

DuFour, DuFour, and Eaker (2008) claim that teachers working collaboratively within professional learning community structures are the key to better academic results
for the students they serve. Data from this research show that only 46 of the 72 (63.9\%) of the Career and Technical Education leaders perceive that their Career and Technical Education teams are collecting data each year to evaluate and improve CTE programs. Furthermore, these data research also state that only two of the ten schools represented by the interviews as progressing at an *advanced* level of being action oriented. These data provide compelling evidence that CTE teams have not yet developed collaborative structures needed for continuous improvement. As a result, this researcher believes that in order for Career and Technical teams to successfully provide their students rigorous, relevant, and equitable learning experiences, educational leaders need to begin to think differently about how their blended teams: 1) develop shared mission, vision, values, and goals, 2) collaboratively focus on learning, 3) collectively inquire, 4) take action and experiment, 5) continuously improve, and 6) be results oriented. Furthermore, these leaders need to take their own action and provide professional development, as well as time and resources, to their CTE teams to support teachers in redefining these six characteristics of a PLC to meet their unique team needs. In addition, leaders need to hold the blended teams accountable for the continuous improvement of their programs and of the academic success of all of the students in their programs by requiring them to collaboratively collect and reflect on student achievement data.

The opportunity is now. If Illinois public high school leaders are truly dedicated to preparing all of their students for college AND career, they need to provide them as many career pathways as possible that align to college and industry standards. These pathways should provide students with the necessary career skills as described by the
Partnership for 21st Century Skills, as well as mathematics and reading skills as described by the Common Core Standards to be successful in college and in the workplace. In order to do this, leaders need to guide their Career and Technical Education teams in developing protocols and structures to collaboratively collect, reflect, and act upon data for the purpose of improving CTE programs of study and ultimately graduating all students prepared for college and career. A summary of these essential steps is illustrated in Figure 7.

![Figure 7. Essential Steps for Preparing Students for College and Career](image)

**Limitations of Research**

There were two limitations to this study. The first limitation was the geographic area used for the sampling of this study was limited to the state of Illinois. Furthermore, after canvassing the entire state for public secondary high schools that have an established Career and Technical Education program and a culture of professionals working within professional learning communities, the sampling of school leaders who
met the criteria and were willing to be interviewed centered in the top half region of the Illinois. Specifically, five out of the 10 schools were in Cook County, two were in Kane, and one in Lake, Winnebago, and Rock Island counties. To minimize this limitation, the researcher sent the pre-screening survey to all public high school leaders responsible for Career and Technical Education to collect information about how they implement their school’s CTE program and ask if their teachers collaborate within a professional learning community. However, the reader should be cautioned not to exclude the findings of this research because of the geographic area or sample size.

The second limitation for this dissertation was the researcher’s personal connection to this study. The researcher is an Illinois public school leader responsible for the Career and Technical Education program in a school with a strong professional learning community culture. To minimize bias and separate the researcher’s truth from the voices of the sample population, the researcher kept a journal, recording personal feelings and opinions. Furthermore, this journal served as a place to document any Career and Technical Education or Professional Learning Community work the researcher completed during the research timeframe that was not related to this study.

**Recommendations for Future Research**

It is surprising that Career and Technical Education, a federally and state funded program, has been researched so little on the impact it has on preparing students for college and career. It is recommended that future research be done to explore connections between schools that have high graduation rates and the success of their CTE programs. Because data collected in this research study provided evidence of a connection between
providing a rigorous, relevant, and equitable Career and Technical Education to a school’s composite ACT score and graduation rate, this research could be especially useful to educational leaders if conducted in urban or low-income districts. In addition, the geographic region of Illinois limited this research. It is recommended that future research be completed to expand this initial research study to a larger scale, possibly including multiple states or regions.

Although the concept of professional learning communities has been a part of the educational landscape for a while, there is limited research on the direct impact of, “Educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve” (DuFour, DuFour & Eaker, 2008, p. 14). This research study provides a “story” of how leaders guide Career and Technical Education teams in collaborating within professional learning communities.

In theory, teachers working collaboratively towards common student learning goals should be simple, but in reality it can be quite complicated. Every team and every school has its unique needs. It is recommended that future research be conducted using multiple case studies to uncover more stories of how schools are making an impact on student learning through their professional learning community structures. In particular, the case study research should include; observations of team meetings, focused interviews with team leaders, and review of team documents such as meeting agendas and goal setting forms to uncover how teachers work collaboratively to achieve common student learning goals within blended teams.
Summary

Today, over 90% of all public school students in the nation take at least one Career and Technical Education course during their four years of high school to provide them with the academic and technical skills needed to be successful in the 21st century knowledge and skills based economy (IES National Center for Education Statistics 1990 to 2005, p. V; Jankowski et al., 2009). In Illinois, approximately 52% of high school students take a Career and Technical Education course annually (Illinois State Board of Education, Career and Technical Education in Illinois 2010, 2011, p. 1). This research study examined how Illinois public education high school Career and Technical Education educational leaders employ best practices in providing all students rigorous, relevant, and equitable learning experiences within a professional learning community structure. Until now, there has been very little research related to this topic. This study asked the following five questions:

1. According to the perceptions of Career and Technical Education leaders, are Illinois public high schools providing students CTE courses as defined by the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework? If not, what courses are they providing students?

2. According to the perceptions of Career and Technical Education leaders, how are they using the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study* framework to develop and continually improve CTE programs in their schools?
3. According to the perceptions of Career and Technical Education leaders, how are they implementing professional learning communities to continually improve Career and Technical Education learning experiences for all students?

4. What are the perceptions of the current Career and Technical Education leaders concerning the importance of CTE programs for students and in their schools?

5. What are the implications of this research for educational leaders?

The methodology that was used to conduct this research was a mixed method two-tier case study. Tier one consisted of a survey administered to 605 Illinois public high school Career and Technical Education leaders, outside of the Chicago Public School system. Seventy-two leaders responded to the survey and data were collected on the CTE programs their schools offer students and how they provide these students rigorous, relevant, and equitable learning experiences that prepare them for college and career within these programs. In addition, the survey asked leaders if their schools are identified as professional learning community schools. Tier two consisted of 10 Career and Technical Education leaders, outside of Chicago Public Schools, whose schools met the identified criteria of providing a successful CTE program within professional learning community were identified. These leaders were asked to participate in a semi-structured interview, addressing questions about how the blended CTE teams within their schools provided students rigorous, relevant, and equitable learning experiences that prepared them for college and career.
This study concluded that according to the perceptions of Illinois public high school leaders, they are providing students CTE courses as defined by the *Illinois Career Cluster Model Local Implementation and Evaluation of Programs of Study framework*. The 10 school leaders interviewed for this research study supported these quantitative data by providing evidence of their schools providing students some level of a rigorous, relevant, and equitable Career and Technical Education learning experiences. Overall, a majority of the 10 school leaders interviewed perceived that Career and Technical Education is important for their students and their school.

Specifically, the following trends were identified by demographic. There were no common trends in the CTE data in the schools by county, nor were there any apparent linkage of the trend data to the leader’s position of each school. Furthermore, there does not appear to be any common trends by number of students enrolled in the sample schools, nor specifically to the student demographic (White, Black, Hispanic, low-income, and IEP). Regarding the number of years a school has been operating within a professional learning community structure, this sample population data did not indicate that the number of years Career and Technical Education teams collaborate within a professional learning community had a significant impact on the overall progress of achieving an *advanced* levels of progress towards providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences. For example, both school #4 and school #7 have been operating within a professional learning community structure for seven years. School #4 is achieving at an *advanced*
level of progress in Career and Technical Education, while the data collected from school #7 indicate that teams are at the beginning stages.

There was a trend in data regarding academic achievement as it relates to the 2011 Illinois graduating class composite ACT score of the sample schools. The five schools (#3, #5, #6, #7, #8) that scored under the state average of 20.6, did not achieve at the advanced level of progress in providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences. This same trend held true for four of these five sample schools as it relates to the average graduation rate. The 2011 Illinois state average graduation rate was 83.8. Four of the ten sample schools (#3, #5, #7, #8) achieved below this average and achieve at only the Progressing or Beginning levels of progress on providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences.

A second and final trend that is revealed by this research is in the number of Career and Technical Education career clusters offered at each of the sample schools. Six of the ten schools (#2, #4, #6, #8, #9, #10) offer more than half of the state offered Career and Technical Education career cluster courses. All of these six schools are either achieving at an advanced level of progress towards providing all students rigorous, relevant, and equitable Career and Technical Education learning experiences or their leaders perceived that they are on their way to achieving an advanced level.

This study also concluded that these 10 leaders perceived that their CTE teams were attempting to implement the six professional learning community characteristics into their practice. However, data collected showed that these teams were faced with
challenges of establishing interdependent blended teams within a division that has multiple singleton teachers, especially when taking action and “learning by doing” together for a common purpose. Data collected from the survey revealed that only 46 of the 72 (63.9%) of the Career and Technical Education leaders perceiving that their Career and Technical Education teams are collecting data each year to evaluate and improve programs. Furthermore, only four of the ten leaders interviewed provided evidence that their CTE teams are action oriented, with only two progressing at an advanced level.

It is this researcher’s hope that this study provides readers a deeper understanding of the role Career and Technical Education can and should play in preparing high school students for college and career. With 95% of high school students in the nation taking a Career and Technical Education course each year, the time is now for leaders to take advantage of these underutilized programs and provide students opportunities to learn vital career skills and apply content learned in the core subjects in an authentic laboratory environment. This researcher strongly believes that CTE programs have the responsibility to serve all students in four ways. Career and Technical Education teams need to:

1. Provide all students a variety of career pathways that match the interests and needs of students, thus providing at-risk students a purpose to graduate from high school.

2. Collaboratively collect, reflect and act upon data to continually improve CTE programs of study that meet the needs of students.
3. Provide all students career skills, both content specific skills that relate to the specific career pathways and process skills as described by the Partnership for 21st Century Skills.

4. Provide all students opportunities to apply the Common Core content of reading and mathematics in an authentic laboratory environment.

It is also this researcher’s hope that this study serves as a springboard for future research to learn more about how interdependent blended teams, as defined by this study, can be used as a powerful collaboration tool to improve Career and Technical Education learning experiences for all students.
APPENDIX A

PERMISSION TO USE SURVEY
October 11, 2011

Brian Durham
Illinois Community College Board

Good Afternoon.

My name is Wendy Custable. I am the Applied Arts Director at Adlai E. Stevenson High School in Lake County. I am doctoral student in Educational Leadership at Loyola University Chicago and am currently in the process of writing my dissertation. My working title is, "How do professional learning community structures foster strong career and technical education programs of study in Illinois public high schools? I am hoping to use the Illinois Programs of Study Self-Assessment that was created by the Office of Community College Research and Leadership office as a tool for gathering data for my research. To make a long story short, I was given your name as the person I should ask permission from use the self-assessment tool. Is this correct? If not, would you refer me to the person/office I should contact?

Thank you very much.
Wendy

October 12, 2011

Wendy,

Thank you for the inquiry. I have spoken with Debra Bragg, Professor & Director of the Office of Community College Research and Leadership at the University of Illinois who developed the self-assessment tool for the ICCB. She and I agree that you are free to use the tool for data collection. Please be sure to provide appropriate attribution / credit as you do so. On a related note, if your subject is Programs of Study I would be interested in your final product so send me a copy or a link when you get there if you don’t mind. Anything to help the cause of Illinois CTE is appreciated.

Also, I encourage you to examine the Programs of Study Expectations tool as it may be of some use. I have attached it for your convenience. You are free to use the tool if you need to as well if it suits your purposes.

Additionally, you are probably already aware of this website, but also check out www.ilprogramsofstudy.org for other related resources.

Good luck!

Brian Durham
Senior Director for Academic Affairs & CTE
Illinois Community College Board
217-524-5502
www.iccb.org
APPENDIX B

ILLINOIS CAREER CLUSTER MODEL LOCAL IMPLEMENTATION AND EVALUATION OF PROGRAMS OF STUDY FRAMEWORK
ILLINOIS PROGRAMS OF STUDY
SELF-ASSESSMENT

2008-09

Office of Community College Research and Leadership
University of Illinois

This publication was prepared by staff at the Office of Community College Research and Leadership at the University of Illinois at Urbana-Champaign, pursuant to a grant from the Illinois Community College Board (ICCB) and in cooperation with the ICCB and the Illinois State Board of Education. It was funded through the Carl D. Perkins Career and Technical Education Improvement Act of 2006.

A PDF version of the Programs of Study Self-Assessment and the individual sections are available online at: http://occrl.ed.uiuc.edu/Projects/perkins/IllinoisPOSself-assessment.pdf. Also visit the Programs of Study section of the Office of Community College Research and Leadership (OCCRL) website: http://occrl.ed.uiuc.edu/Projects/perkins/

POS Self Assessment
Version 2.0, FY09
SECTION V:
PROGRAMS OF STUDY DESIGN ELEMENTS
SECTION V: PROGRAMS OF STUDY DESIGN ELEMENTS — To be completed by each Partner.

<table>
<thead>
<tr>
<th>Guiding Principle</th>
<th>Principle Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Leadership, organization and support</td>
<td>Programs of Study are developed, supported and led with guidance from collaborative Partners.</td>
</tr>
<tr>
<td>2. Access, equity and opportunity</td>
<td>Each and every student has access to educational opportunities and services that enable their success.</td>
</tr>
<tr>
<td>3. Alignment and transition</td>
<td>Education and training providers, with input from business and industry, enhance alignment that facilitates student transition through the educational pipeline.</td>
</tr>
<tr>
<td>4. Enhanced curriculum and instruction</td>
<td>Curriculum and pedagogy involve rigorous and relevant instruction that enhance learning and enable students to attain academic and technical standards and credentials.</td>
</tr>
<tr>
<td>5. Professional preparation and development</td>
<td>Comprehensive and continuous professional development that impacts teaching and learning is delivered to enhance the recruitment, preparation, and retention of qualified instructional and administrative staff.</td>
</tr>
<tr>
<td>6. Program improvement and accountability</td>
<td>Data are collected, shared and utilized to improve outcomes and demonstrate accountability.</td>
</tr>
</tbody>
</table>

Use this tool to assess the CTE programs that you are considering for implementation as Programs of Study. Each statement in this section is associated with the six Guiding Principles for Programs of Study Implementation. This tool provides an evidence-based method for selecting CTE programs for future implementation and will inform the evaluation system.

For the selected CTE program, rate each sample design element on its current level of implementation using the scale below.

1) **Little or no implementation**: Currently planning and/or pilot testing but have not yet started implementation.

2) **Limited or partial implementation**: Beyond the planning stage. Implementation efforts are now and not fully operational. Minimal monitoring of progress is occurring.

3) **Operational level of implementation**: Implementation efforts are fully operational and integrated into routine internal processes. Monitoring of progress is occurring regularly, and information is used to improve processes.

4) **Exemplary level of implementation**: Implementation efforts are considered to be fully mature and an example of best practice. Implementation and evaluation are integrated into a cohesive system.
SECTION V: PROGRAMS OF STUDY DESIGN ELEMENTS (continued)

Ratings of Guiding Principle Design Elements

The six Guiding Principles for Programs of Study implementation are presented below with five sample design elements for each principle. For each selected CTE program, choose the appropriate level of implementation of each sample design element and put the score (1-4) in the “Row Score” box. For each Guiding Principle, write the sum of the Row Scores in the “Design Elements Total” box.

<table>
<thead>
<tr>
<th>GUIDING PRINCIPLES AND DESIGN ELEMENTS</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEADERSHIP, ORGANIZATION AND SUPPORT:</strong> Programs of Study are developed, supported and led with guidance from collaborative partners.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. The program has the commitment of necessary personnel (administrators, teachers, guidance counselors, business partners) with agreed upon roles and responsibilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2. The program has a clear mission, vision, goals and expectations that are communicated to all partners and aligned with other policy initiatives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3. The program has a high level of commitment from top leadership and adequate resources to maintain sustainability.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4. The program uses input from an active advisory committee, focuses on shared decision-making and receives necessary technical assistance.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5. Partners share resources and work collaboratively with other organizations in the Partnership.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Design Elements Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ACCESS, EQUITY AND OPPORTUNITY:</strong> Each and every student has access to educational opportunities and services that enable their success.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Various strategies are used to recruit, enroll and retain students, including students who are underserved, under-represented and from special populations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7. The program is universally designed to help students overcome gaps and barriers to successful transition.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>8. Support services and resource networks are provided for students to help them succeed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>9. Special population sub-groups are clearly identified so that their progress can be quantified and compared with other populations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>10. Processes are in place to help students overcome barriers to initial entry or re-entry into education.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Design Elements Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SECTION V: PROGRAMS OF STUDY DESIGN ELEMENTS (continued)

#### GUIDING PRINCIPLES AND DESIGN ELEMENTS

<table>
<thead>
<tr>
<th>CTE Program Name:</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

**ALIGNMENT AND TRANSITION:** Education and training providers, with input from business and industry, enhance alignment that facilitates student transition through the educational pipeline.

| 11. Program curricula are aligned to local, state and national education and industry standards. | 1 | 2 | 3 | 4 |
| 12. Articulation agreements are established that facilitate a seamless transition and non-duplicative curriculum. | 1 | 2 | 3 | 4 |
| 13. Program alignment provides multiple entry, exit and re-entry points that lead to certifications, stackable credentials and degrees. | 1 | 2 | 3 | 4 |
| 14. Data-sharing agreements are in place to measure individual student progress and transition over time. | 1 | 2 | 3 | 4 |
| 15. The program consists of a coherent sequence of courses and multiple opportunities to build "college knowledge". | 1 | 2 | 3 | 4 |

**Design Elements Total**

**ENHANCED CURRICULUM AND INSTRUCTION:** Curriculum and pedagogy involve rigorous and relevant instruction that enhance learning and enable students to attain academic and technical standards and credentials.

| 16. The program’s curriculum includes career exploration, development and guidance. | 1 | 2 | 3 | 4 |
| 17. The program’s curriculum provides integrated and rigorous CTE and academic content. | 1 | 2 | 3 | 4 |
| 18. The program offers work-based learning and expands use of technology. | 1 | 2 | 3 | 4 |
| 19. Dual credit opportunities are provided for CTE and academic courses. | 1 | 2 | 3 | 4 |
| 20. Contextual instruction is provided to enhance student learning. | 1 | 2 | 3 | 4 |

**Design Elements Total**
### SECTION V: PROGRAMS OF STUDY DESIGN ELEMENTS (continued)

**GUIDING PRINCIPLES AND DESIGN ELEMENTS**

CTE Program Name: ____________________

<table>
<thead>
<tr>
<th>Element</th>
<th>Limited or Partial</th>
<th>Operational</th>
<th>Exemplary</th>
<th>ROW SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Program provides professional development based on needs assessment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. Processes are in place to ensure the recruitment, selection and retention of qualified teachers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. Professional development focuses on classroom instruction and improving student outcomes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Professional development includes opportunities for secondary and postsecondary educators to collaborate to encourage curriculum alignment and integration.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Professional development involves intensive, continuous training of all partners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Design Elements Total**

**PROGRAM IMPROVEMENT AND ACCOUNTABILITY:** Data are collected, shared and utilized to improve outcomes and demonstrate accountability.

<table>
<thead>
<tr>
<th>Element</th>
<th>Limited or Partial</th>
<th>Operational</th>
<th>Exemplary</th>
<th>ROW SCALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. The program regularly uses data and evaluation for planning, development and implementation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. The program has procedures and processes in place to ensure collection of valid and reliable longitudinal data.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. Program data are cohort-based and can be disaggregated to determine the performance of sub-groups.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. Program activities are evaluated and data are shared for improvement and accountability.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30. The program fosters a culture of continuous improvement.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Design Elements Total**
SECTION V: PROGRAMS OF STUDY DESIGN ELEMENTS (continued)

Partner Self-Assessment Scorecard:

Insert the “Design Elements Total” for each Principle into column two, labeled “Score”, and add to obtain the “Grand Total for CTE Program.”

<table>
<thead>
<tr>
<th>Guiding Principle</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership, organization and support</td>
<td></td>
</tr>
<tr>
<td>Access, equity and opportunity</td>
<td></td>
</tr>
<tr>
<td>Alignment and transition</td>
<td></td>
</tr>
<tr>
<td>Enhanced curriculum and instruction</td>
<td></td>
</tr>
<tr>
<td>Professional preparation and development</td>
<td></td>
</tr>
<tr>
<td>Program improvement and accountability</td>
<td></td>
</tr>
<tr>
<td>Grand Total for CTE Program</td>
<td></td>
</tr>
</tbody>
</table>
SECTION V: PROGRAMS OF STUDY DESIGN ELEMENTS (continued)

Partnership Self-Assessment Scorecard

The purpose of this exercise is for the Partnership to prioritize and select the CTE programs for implementation as Programs of Study. A suggested way to use this information is to convene the Partners and ask them to review the compiled results and discuss the CTE programs most ready to be implemented as Programs of Study.

Insert the "Grand Total Score" for the CTE program for each Partner (from the previous page) into the grid below.

<table>
<thead>
<tr>
<th>CTE Program Name</th>
<th>CTE Program Name</th>
<th>CTE Program Name</th>
<th>CTE Program Name</th>
<th>CTE Program Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
<th>Score</th>
</tr>
</thead>
</table>

Partner: __________________________
Partner: __________________________
Partner: __________________________
Partner: __________________________
Partner: __________________________
Partner: __________________________
Partner: __________________________
Partner: __________________________
Partner: __________________________
Partner: __________________________

Average Partner Score* __________________________

*Total all Partner Scores and divide by the number of Partners.

If there are more Partners or CTE programs than the number of spaces on this grid, make additional copies.
SECTION V: PROGRAMS OF STUDY DESIGN ELEMENTS (continued) – These questions are posed to stimulate conversation among the Partners.

Partner Reflection

1. Identify the CTE program(s) that you have prioritized for implementation as Programs of Study.

2. What next steps will you take to implement the CTE program(s)?

3. How will you utilize the Programs of Study Guiding Principles and design elements?

4. What do you see as the greatest barriers to implementation of Programs of Study? How will these barriers be addressed?

5. What current strengths will you build on to support Programs of Study implementation?
APPENDIX C

CAREER AND TECHNICAL EDUCATION SURVEY
Illinois Career Cluster Model
Career and Technical Education Survey

Thank you for taking the time to complete this survey. It should take approximately 5 to 10 minutes to complete. The information you provide will serve as valuable data for an educational leadership research study at Loyola University Chicago about how Illinois public high school Career and Technical Education leaders provide appropriate, rigorous, and equitable CTE learning experiences to all students.

This survey was modified for the purpose of this study from the Illinois Programs of Study Self-Assessment published by the Illinois Community College Board and the Illinois State Board of Education in 2008. There are 10 nationally recognized career clusters. Within each of these clusters there are multiple Career Pathways. For additional information about Illinois’s Career Cluster framework, please log on to: http://occl.illinois.edu/node/428.

Career and Technical Education (CTE) prepares youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education—including industry-recognized credentials, postsecondary certificates, and two- and four-year degrees (www.schoolsins.org).

Please check the boxes of all Career and Technical Education Career Cluster framework courses your school offers to students.

- Agriculture, Foods and Natural Resources
  - Agriculture, Food and Natural Resources
  - Business, Management Administration
  - Marketing
  - Government & Public Administration
  - Information Technology
  - Finance
  - Family and Consumer Sciences
  - Education and Training
  - Hospitality and Tourism
  - Human Services
  - Health Sciences
  - Technology and Engineering
  - Arts, Audio/Video Technology & Communication
  - Architecture and Construction
  - Science, Technology, Engineering & Mathematics (STEM)
  - Manufacturing
  - Transportation, Distribution & Logistics
  - Law, Public Safety, Corrections & Security

CTE GUIDING PRINCIPLE

1. Do you have established partnerships with businesses, organizations, and individuals from your community?
   Circle: Yes or No

   If yes, in what capacity do these individuals serve? Please check all that apply:
   - Classroom speaker
   - Student or group mentor
   - Curriculum Advisory Board
   - Financial resources
   - Equipment/material resources
   - Provide internship, jobs, or fieldtrip opportunities

2. Do all students have opportunities to take Career and Technical Education courses at your school?
   Circle: Yes or No

   If no, which demographic or group of students are unable to take a Career and Technical Education course?

3. Are there support services provided to ensure all students succeed in the Career and Technical Education courses?
   Circle: Yes or No

   If yes, please list examples.

QUESTIONS
<table>
<thead>
<tr>
<th>CTE Guiding Principle</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access, Equity and Opportunity</strong></td>
<td></td>
</tr>
<tr>
<td>4. Are there resources provided to ensure all students succeed in the Career and Technical Education courses? Circle: Yes or No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If yes, please list examples.</td>
</tr>
<tr>
<td><strong>Alignment and Transition</strong></td>
<td></td>
</tr>
<tr>
<td>5. Are the Career and Technical Education program curricula aligned to local, state, national, and industry standards? Circle: Yes or No</td>
<td></td>
</tr>
<tr>
<td>6. Approximately how many students were enrolled in a CTE course during the following years:</td>
<td></td>
</tr>
<tr>
<td><strong>Enhanced Curriculum and Instruction</strong></td>
<td></td>
</tr>
<tr>
<td>7. Do the students taking Career and Technical Education courses at your school have opportunities for dual or articulated credit with colleges/universities? Circle: Yes or No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If yes, in what courses and at what college/university?</td>
</tr>
<tr>
<td><strong>Professional Preparation and Development</strong></td>
<td></td>
</tr>
<tr>
<td>8. Are all of the teachers who teach Career and Technical Education course certified to teach in their designated program? Circle: Yes or No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If no, what certification do teachers have?</td>
</tr>
<tr>
<td><strong>Program Improvement and Accountability</strong></td>
<td></td>
</tr>
<tr>
<td>9. Are there data collected each year used to evaluate and improve the Career and Technical Education program? Circle: Yes or No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If yes, please list examples.</td>
</tr>
<tr>
<td><strong>Professional Learning Community</strong></td>
<td></td>
</tr>
<tr>
<td>10. Is your school identified as a Professional Learning Community? Circle: Yes or No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If yes, does your school have such collaboration that is embedded into the school year?</td>
</tr>
<tr>
<td>11. How many years has your school collaborated within a professional learning community?</td>
<td></td>
</tr>
<tr>
<td>12. Do the Career and Technical Education teams have experience establishing student-learning goals? Circle: Yes or No</td>
<td></td>
</tr>
</tbody>
</table>

13. Would you be willing to be interviewed about the Career and Technical Education program at your school? Circle: Yes or No

If yes, then please include:

   - Your Name: __________________________
   - Contact Information: __________________________
APPENDIX D

CAREER AND TECHNICAL EDUCATION SURVEY REQUEST TO PARTICIPATE IN RESEARCH
REQUEST TO PARTICIPATE IN RESEARCH

June 2012

Project Title: How do Professional Learning Communities Foster Strong Career and Technical Education Programs of Study in Illinois Public high school?

Researcher: Wendy Custable

Faculty Sponsor: Dr. Marla Israel Ed.D. – Dissertation Research Study: Mixed-method

Introduction: You are being asked to take part in a research study being conducted by Wendy Custable for a dissertation study at Loyola University Chicago under the supervision of Dr. Marla Israel Ed.D., Associate Professor in the School of Education because you are a leader responsible for the Career and Technical Education program at an Illinois public high school.

Purpose: The enclosed survey is intended to provide data to gain a big picture view of the types of Career Cluster courses offered and the structures and resources used to provide students Career and Technical Education in Illinois.

Career and Technical Education (CTE) prepares both youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education—including industry-recognized credentials, postsecondary certificates, and two- and four-year degrees (www.acteonline.org).

A Professional Learning Community is a group of educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, R. DuFour, R. and Eaker, R. 2008).

A Blended Team is a group of diverse professionals with a common purpose, appreciation, and understanding, who work collaboratively towards common student learning goals.

References:

**Procedures:**
To participate in this study, please complete the attached survey. It should take approximately 10 minutes to complete. If you have any questions about the survey or about this dissertation study, please contact me by email at wcustable@luc.edu. You may also contact my dissertation director, Dr. Marla Israel, at misrael@luc.edu if you have any questions or concerns regarding the validity of this study.

**Risks/Benefits:**
There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.

There are not direct benefits to you from participating in this study. However, your contribution may provide other school leaders a clearer understanding of how a blended Career and Technical Education team might operate.

**Confidentiality:**
- Research notes and any documents collected will be stored and made available only to the researcher. When not in use, notes and documents will be secured, and upon completion of the research will be destroyed.
- A number will be assigned to each survey to prevent any identifiable date of person or school to be revealed in the dissertation study. A master list linking participants’ names with an identification number will be stored in a locked file separate from the survey data and only seen by the researcher. This information will be destroyed at the conclusion of the study.
- Although only the researcher will have access to notes and collected documents, other people within your school environment may be aware that you are being interviewed as part of this research assignment, however the researcher will not share the contents of the interview with anyone from your school or district.

**Contacts and Questions:**
If you have questions about this research study, please feel free to contact:

**Researchers:**
- Wendy Custable at wcustable@luc.edu / (847) 204-3235

**The Dissertation Director:**
- Dr. Marla Israel at misrael@luc.edu / (312) 915-6336

If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.
APPENDIX E

REQUEST TO PARTICIPATE IN STUDY REMINDER POST CARD
Dear CTE Leader,
Two weeks ago you received in the mail a request to participate in a research study titled, “How Do Professional Learning Communities Foster Strong Career and Technical Education Programs of Study in Illinois Public High Schools?” for a dissertation study at Loyola University Chicago. The data collected from this study is intended to gain a big picture view of the types of career cluster courses offered and the structures and resources used to provide students Career and Technical Education in Illinois. Please consider completing the survey. It should only take approximately 10 minutes to complete. If you have any questions about the survey or would like another copy, please contact me by email at wcustable@luc.edu.

Thank you,
Wendy Custable
LETTER OF COOPERATION

September 2012

Project Title: How do Professional Learning Communities Foster Strong Career and Technical Education Programs of Study in Illinois Public high school?

Researcher: Wendy Custable

Faculty Sponsor: Dr. Marla Israel Ed.D. – Dissertation Research Study: Mixed-Method

Introduction:
You are being asked to take part in a research study being conducted by Wendy Custable for a dissertation study at Loyola University Chicago under the supervision of Dr. Marla Israel Ed.D., Associate Professor in the School of Education.

You are being asked to participate because you are a leader responsible for the Career and Technical Education program at an Illinois public high school that operates within a Professional Learning Community. Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

Purpose:
The purpose of this study is to explore how Career and Technical Education blended teams provide all students appropriate, rigorous, and equitable learning experiences within a professional learning community structure of Illinois public high schools.

Career and Technical Education (CTE) prepares both youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education—including industry-recognized credentials, postsecondary certificates, and two- and four-year degrees (www.acteonline.org).

Professional Learning Community: Educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, R. DuFour, R. and Eaker, R. 2008).

A Blended Team is a group of diverse professionals with a common purpose, appreciation, and understanding, who work collaboratively towards common student learning goals.
Procedures:
If you agree to be in the study, you will be asked to allow me to participate in the following activities:

- Interview you about how you lead the Career and Technical Education program within a professional learning community. (approximately one hour).
- Collection of the following documents and artifacts: student learning goal examples, team norms, CTE program policies and structures.

Risks/Benefits:
There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.

There are not direct benefits to you from participating in this study. However, your contribution may provide other school leaders a clearer understanding of how a blended Career and Technical Education team might operate.

Confidentiality:
- Research notes and any documents collected will be stored and made available only to the researcher. When not in use, notes and documents will be secured, and upon completion of the research will be destroyed.
- To ensure anonymity, pseudonyms will be used in lieu of actual names to prevent participants’ identities from being revealed when developing the dissertation study. The pseudonyms will link to the aforementioned assigned survey number. This information will be destroyed at the conclusion of the study.
- Although only the researcher will have access to notes and collected documents, other people within your school environment may be aware that you are being interviewed as part of this research assignment, however the researcher will not share the contents of the interview with anyone from your school or district.

Voluntary Participation:
Participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty.

Contacts and Questions:
If you have questions about this research study, please feel free to contact:

Researchers:
- Wendy Custable at wcustable@luc.edu / (847) 204-3235

The Dissertation Director:
- Dr. Marla Israel at misrael@luc.edu / (312) 915-6336
If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

References:


Statement of Consent:
Your signature below indicates that you have read the information provided above, have had an opportunity to ask questions, and agree to participate in this interview. You will be given a copy of this form to keep for your records.

Participant’s Signature __________________________________________ Date ______________

Researcher’s Signature __________________________________________ Date ______________
Telephone Script to Request Participation in Interview

Hello, my name is Wendy Custable. I am a doctoral student in the Educational Leadership program at Loyola University Chicago. You indicated on the Career and Technical Education survey that you are willing to be interviewed about the Career and Technical Education program at your school.

The purpose of the interview is to gather data about how Career and Technical Education blended teams provide all students rigorous, relevant, and equitable learning experiences within a professional learning community structures. The interview will take approximately one hour. I will interview you at a time and place that is convenient to you.

There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life. Everything you say will be held in confidence and pseudonyms will be used in lieu of actual names when developing the dissertation study. Are you willing to be interviewed?

If the response is yes:

Thank you. I will send you in the mail the interview questions and a “Consent to participate in the Study” form. Once you return the form, I will contact you to schedule a time and place for the interview. Please email me at wcustable@luc.edu or call me at 847-204-3235 if you have any questions. Have a good day.

If no response is no:

Thank you for your time and thank you for completing the survey. If you change your mind or have any questions regarding this research study, please email me at wcustable@luc.edu or call me at 847-204-3235. Have a good day.
APPENDIX H

CAREER AND TECHNICAL EDUCATION LEADER INTERVIEW PROTOCOL
Interview Questions
for
Illinois Public High School Career and Technical Education Leaders

Researcher: Wendy Custable

The purpose of this study is to explore how Illinois high school Career and Technical Education leaders provide students rigorous, relevant, and equitable CTE learning experiences within a professional learning community framework.

**Career and Technical Education (CTE):** Prepares both youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education—including industry-recognized credentials, postsecondary certificates, and two- and four-year degrees (www.acteonline.org).

**Professional Learning Community:** Educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, R. DuFour, R. and Eaker, R. 2008).

**Blended Team:** A group of diverse professionals with a common purpose, appreciation, and understanding, who work collaboratively towards common student learning goals.

**Background Information**

1. **Please provide me some information about your role as leader:**
   a. What is your role in the school/district?
   b. What teaching and/or leadership experiences provided you the qualifications to assume this role?
   c. What experiences do you have with Career and Technical Education?
   d. What is your perception of the importance of Career and Technical Education in your school?

2. **From a historical perspective, tell me a little about:**
   a. The role of CTE at your school.
   b. The CTE career clusters offered at your school.
   c. The CTE curricular teams at your school.

**Leading Career and Technical Education Programs**

1. **Leadership, organization, and support**
   a. What is the mission of the CTE program at your school?
      i. How do you align the mission of the CTE programs to the mission of the school/district?
   b. In your role as the leader:
i. How do you display your commitment to the CTE program?
ii. What structures do you have in place to encourage and support the blended CTE teams to share resources and work collaboratively with each other, other organizations, and business partners within a professional learning community?
iii. How do you support the blended CTE teams in establishing team norms and procedures?
iv. What are typical blended CTE team meeting agenda items?

2. Access, equity and opportunity
   In your role as the leader:
   a. What strategies do you use to recruit, enroll, and retain students in the CTE programs?
   b. How do you create a master schedule of courses to allow for all students to have opportunities to take CTE courses?
   c. What support services do you provide to promote academic success for all students in CTE courses?

3. Alignment and transition
   In your role as the leader:
   a. What procedures do you have in place to ensure the CTE program sequences are aligned to local, state, national, and industry standards?
   b. How do you support your blended CTE teams in sharing course and student learning data between junior high school and high school, and between high school to postsecondary institutions?

4. Enhanced curriculum and instruction
   In your role as the leader:
   a. How do you help the blended CTE teams stay focused on student learning?
      i. What are some examples of student leading goals the blended CTE teams set?
      ii. How do the CTE courses integrate academics with real-life experiences?
      iii. How are career exploration, development, and guidance included into the CTE courses?
   b. What CTE dual and articulation agreements does your school/district offer your students?

5. Professional preparation and development
   In your role as the leader:
   a. What is your procedure to recruit, select, and retain qualified CTE teachers?
   b. What professional development opportunities do you provide the CTE
teachers?
c. How do you encourage and support the blended CTE teams to work
together to build shared knowledge on the best way to achieve student-
learning goals?
d. Do the CTE teams use scientific researched collaboration protocols to
share ideas and practices? (Collaborative grading, critical friend, lesson
study, etc.)
   i. If so, how are these protocols used and for what reason?

6. Program improvement and accountability
In your role as the leader:
c. How do you support your blended CTE teams in the use of data to
continuously improve the curriculum, instruction, and assessment of their
courses to meet the needs of all students?
f. How do the blended CTE teams assess student learning?
g. Do the teams share common assessments and assessment methods?
   i. If so, what are they?
   ii. If not, why not?
h. What is an example of a common expectation that a blended CTE team
has for student learning?

7. What challenges have you encountered leading blended Career and Technical
Education team collaboration within a professional learning community
framework?

8. What are your perceptions of the importance of CTE programs for students and in
your school?

References:
CTE Information. Association for Career and Technical Education. Retrieved July 9,

at Work*. Bloomington, IN: Solution Tree.
APPENDIX I

CONSENT TO PARTICIPATE IN INTERVIEW
CONSENT TO PARTICIPATE IN INTERVIEW

September 2012

Project Title: How do Professional Learning Communities Foster Strong Career and Technical Education Programs of Study in Illinois Public high school?

Researcher: Wendy Custable

Faculty Sponsor: Dr. Marla Israel Ed.D. – Dissertation Research Study: Mixed-Method

Introduction:
You are being asked to take part in a research study being conducted by Wendy Custable for a dissertation study at Loyola University Chicago under the supervision of Dr. Marla Israel Ed.D., Associate Professor in the School of Education.

You are being asked to participate because you are a leader responsible for the Career and Technical Education program at an Illinois public high school that operates within a Professional Learning Community.

Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

Purpose:
The purpose of this study is to explore how Career and Technical Education blended teams provide all students rigorous, relevant, and equitable learning experiences within a professional learning community structure of Illinois public high schools.

Career and Technical Education (CTE) prepares both youth and adults for a wide range of careers and further educational opportunities. These careers may require varying levels of education—including industry-recognized credentials, postsecondary certificates, and two- and four-year degrees (www.acteonline.org).

Professional Learning Community: Educators committed to working collaboratively in ongoing processes of collective inquiry and action research to achieve better results for the students they serve (DuFour, R. DuFour, R. and Eaker, R. 2008).
A *Blended Team* is a group of diverse professionals with a common purpose, appreciation, and understanding, who work collaboratively towards common student learning goals.

**Procedures:**
If you agree to be in the study, you will be asked to participate in the following activities:
- Interview you about how you lead the Career and Technical Education program within a professional learning community. The interview will take approximately one hour and will be recorded.
- Collection of the following documents and artifacts: student learning goal examples, team norms, CTE program policies and structures.

**Risks/Benefits:**
There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life.

There are not direct benefits to you from participating in this study. However, your contribution may provide other school leaders a clearer understanding of how a blended Career and Technical Education team might operate.

**Confidentiality:**
- Research notes and any documents collected will be stored and made available only to the researcher. When not in use, notes and documents will be secured, and upon completion of the research will be destroyed.
- To ensure anonymity, pseudonyms will be used in lieu of actual names to prevent participants’ identities from being revealed when developing the dissertation study. The pseudonyms will link to the aforementioned assigned survey number. This information will be destroyed at the conclusion of the study.
- Although only the researcher will have access to notes and collected documents, other people within your school environment may be aware that you are being interviewed as part of this research assignment, however the researcher will not share the contents of the interview with anyone from your school or district.

**Voluntary Participation:**
Participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty.

**Contacts and Questions:**
If you have questions about this research study, please feel free to contact:

Researchers:
- Wendy Custable at wcustable@luc.edu/ (847) 204-3235
The Dissertation Director:
  • Dr. Marla Israel at misrael@luc.edu / (312) 915-6336

If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

References:


Statement of Consent:
Your signature below indicates that you have read the information provided above, have had an opportunity to ask questions, and agree to participate in this interview. You will be given a copy of this form to keep for your records.

____________________________________________   __________________
Participant’s Signature                                                   Date

____________________________________________  ___________________
Researcher’s Signature                                                  Date
APPENDIX J

ILLINOIS STATE BOARD OF EDUCATION FOIA REQUEST
July 6, 2011

Dear Mr. Vanover

I, Wendy Custable, hereby request that the Illinois State Board of Education produce the following public records pursuant to the provisions of the Illinois Freedom of Information Act, 5 Ill. Comp. Stat. Ann. 140/1 et seq. for the purpose of Doctoral research at Loyola University Chicago which is being supervised by Dr. Marla Israel Ed.D., Associate Professor in the School of Education.

1. The name, district name, district mailing address, email address, and phone number of all Illinois public secondary school leaders responsible for the Career and Technical Education program and/or the Career and Technical Education Improvement (CTEI) state grant.

Please produce the requested records to Wendy Custable, 304 Lancaster Ave, Prospect Heights, IL, 60070 or (if provided electronically) to wcustable@luc.edu within (7) working days of your receipt of this request [ILL.Comp.Stat.140/3(c)]. If the requested records cannot be produced within seven (7) working days, please notify me in writing of the reason(s) for the delay and the date by which requested records will be available.

If you do not understand this request, or any portion thereof, or if you feel you require clarification of this request, or any portion thereof, please contact me at 847-204-3235.

Thank you for your attention to this matter.

Sincerely,

Wendy Custable

Sent via email to FOIA@isbe.net
APPENDIX K

EDUCATION FOR EMPLOYMENT DELIVERY SYSTEM

DIRECTORS FOIA REQUEST
August 31, 2011

Dear ____________:

I, Wendy Custable, hereby request that _______________ produce the following public records pursuant to the provisions of the Illinois Freedom of Information Act, 5 Ill. Comp. Stat. Ann. 140/1 et seq. for the purpose of Doctoral research at Loyola University Chicago which is being supervised by Dr. Marla Israel, Associate Professor in the School of Education.

1. The name, position title, district name, district mailing address, email address, and phone number of each Illinois public secondary school leaders in your EFE region responsible for their school’s Career and Technical Education program (ie. educator advisory counsel, administrative counsel).

   Please produce the requested records to Wendy Custable, 304 Lancaster Ave, Prospect Heights, IL, 60070 or (if provided electronically) to wcustable@luc.edu within (7) working days of your receipt of this request [ILL.Comp.Stat.140/3(c)]. If the requested records cannot be produced within seven (7) working days, please notify me in writing of the reason(s) for the delay and the date by which requested records will be available.

   If you do not understand this request, or any portion thereof, or if you feel you require clarification of this request, or any portion thereof, please contact me at 847-204-3235 or by email.

   Thank you for your attention to this matter.

   Sincerely,

   Wendy Custable

   Sent via email
APPENDIX L

CONFIDENTIALITY AGREEMENT FOR TRANSCRIPTION SERVICES
Confidentiality Agreement
Transcription Services

I, [transcriptionist's name], agree to maintain full confidentiality in regards to any and all audiotapes and documentation received from Wendy Custable related to her doctoral study: How Do Professional Learning Community Structures Foster Strong Career and Technical Education Programs of Study in Illinois Public High Schools? Furthermore, I agree:

1. To hold in strictest confidence the identification of any individual that may be inadvertently revealed during the transcription of audiotaped interviews, or in any associated documents.

2. To not make copies of any audiotapes or computerized files of the transcribed interview texts, unless specifically requested to do so by Wendy Custable.

3. To store all study-related audiotapes and materials in a safe, secure location as long as they are in my possession.

4. To return all audiotapes and study-related documents to Wendy Custable in a complete and timely manner.

5. To delete all electronic files containing study-related documents from my computer hard drive and any back up devices.

I am aware that I can be held legally liable for any breach of this confidentiality agreement, and for any harm incurred by individuals if I disclose identifiable information contained in the audiotapes and/or files to which I will have access.

Transcriber's name (printed): [transcriptionist's name]
Transcriber's signature: [signature]
Date: 10-2-12
REFERENCES


VITA

Wendy Custable grew up in a small town, Edgington, Illinois and now resides in the Chicagoland area with her husband and son.

Wendy earned a Bachelor of Science degree in 1998 from Illinois State University in Normal, Illinois majoring in Industrial Technology with an endorsement in Drafting, Construction, and Graphic Arts.

While working as a classroom teacher at Adlai E. Stevenson High School District 125 in Lincolnshire, Illinois, Wendy earned a Masters of Arts in Educational Leadership and Type 75 certification from Northeastern Illinois University in 2004. In the spring of 2008, she began the doctoral program in Educational Administration and Supervision at Loyola University in Chicago, Illinois.

She began her administrative career in 2004 as the Director of Applied Arts at Adlai E. Stevenson High School District 125, where she is currently holding the same position.
DISSERTATION COMMITTEE

The Dissertation submitted by Wendy Custable has been read and approved by the following committee:

Marla Israel, Ed.D., Director
Associate Professor, School of Education
Loyola University Chicago

Janis Fine, Ph.D.
Associate Professor, School of Education
Loyola University Chicago

Eric Twadell, Ph.D.
Superintendent, Adlai Stevenson High School
District 125