LEADERSHIP SUCCESS: A STUDY OF CAREER AND TECHNICAL EDUCATION ADMINISTRATIVE DIRECTORS

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by

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ABSTRACT

Leaders influence the lives of many and impact the success of a wide variety of organizations. Career and Technical Education (CTE) Administrative Directors provide leadership in CTE school settings as they lead and manage personnel, facilities, curriculum, and student services. This study sought to determine the essential leadership skills that are important for success as a CTE Administrative Director, the development needs among CTE Administrative Directors for these leadership skills, the potential relationships that may exist between these leadership skills and the development needs for these skills, and any potential relationships that may exist between selected demographic variables and the leadership skills. The findings indicated that there are several leadership skills important for success as a CTE Administrative Director including self-responsibility and management, leadership and coaching, and written communication. The leadership skills that were identified as having a high need for development included external awareness, strategic thinking and planning, and human performance management. Although an analysis of the data did not confirm statistically significant relationships between leadership skills and their development needs nor between demographic variables and leadership skills, the results did indicate some interesting findings associated with these areas. As a result of the information received from this study, the development of leadership skills by CTE Administrative Directors can be highlighted and emphasized during leadership preparation and professional development.
# TABLE OF CONTENTS

LIST OF FIGURES ......................................................................................................................... viii

LIST OF TABLES ............................................................................................................................. ix

ACKNOWLEDGEMENTS .................................................................................................................. x

Chapter 1 Introduction ..................................................................................................................... 1

  Historical Perspectives ................................................................................................................... 1

  Overview of Career and Technical Education ........................................................................... 2

  The Problem .................................................................................................................................. 4

  Purpose of Study and Research Questions ............................................................................. 6

  Significance of the Study ............................................................................................................. 6

  Assumptions ................................................................................................................................. 7

  Theoretical Framework ............................................................................................................... 8

  Definition of Terms ..................................................................................................................... 12

  Chapter Summary ....................................................................................................................... 13

Chapter 2 Review of Related Literature ......................................................................................... 15

  CTE Administrative Director and Traditional School Leadership ........................................... 16

  CTE Administrative Director ..................................................................................................... 18

    Leadership Skills .................................................................................................................... 19

    Management Skills .................................................................................................................. 25

  Traditional Academic School Leadership ............................................................................. 28

    Leadership as a Superintendent in the Rural School Setting ............................................... 29

    Dual Superintendent/Principal Leadership Role in Education ........................................... 31
Leadership in the Middle School Setting.........................................................33
Leadership in High-Needs Middle Schools......................................................34
Leadership in the Elementary School Setting.................................................36

Chapter Summary..........................................................................................38

Chapter 3 Methodology..................................................................................40

The Problem.....................................................................................................40
Target Population.............................................................................................41
Research Questions..........................................................................................42
Variables..........................................................................................................43
  Dependent Variables.......................................................................................43
  Independent Variables....................................................................................44
Instrumentation.................................................................................................44
Review of Procedures.......................................................................................45
Data Collection..................................................................................................47
Analysis of Data.................................................................................................48
Chapter Summary............................................................................................50

Chapter 4 Analysis of Data.............................................................................51
Survey Participation...........................................................................................51
Background of Participants...............................................................................52
  CTE Administrative Position.........................................................................53
Total Years of Experience in CTE Administration.........................................53
Route to CTE Administrative Certification.........................................................54

School Setting........................................................................................................54

School Location......................................................................................................55

Current Student Enrollment in School.................................................................55

Age of Participants...............................................................................................56

Gender of Participants...........................................................................................56

Research Findings.................................................................................................57

Research Question 1..............................................................................................57

Research Question 2..............................................................................................58

Research Question 3..............................................................................................59

Research Question 4..............................................................................................60

Additional Research Findings................................................................................61

Areas for Additional Training and Development..................................................61

Important Leadership Skills..................................................................................62

Chapter Summary.................................................................................................63

Chapter 5 Conclusions, Discussion, Limitations, and Recommendations...............65

Conclusions............................................................................................................65

Discussion..............................................................................................................70

Limitations.............................................................................................................73

Recommendations.................................................................................................74

Recommendations for the Field of CTE Leadership..............................................75

Recommendations for Future Study....................................................................77
References...........................................................................................................79

Appendices........................................................................................................85

Appendix A Leadership Competency Inventory.............................................85

Appendix B Office For Research Protections Approval E-Mail......................87
LIST OF FIGURES

Figure 1: CTE Administrative Director Success.................................................................12

Figure 2: PPDC Territory Map..........................................................................................42

Figure 3: Successful CTE Administrative Directors..........................................................73
LIST OF TABLES

Table 1: Administrative Position........................................................................................................53
Table 2: Years of Experience in CTE Administration........................................................................54
Table 3: Route to CTE Administration................................................................................................54
Table 4: School Setting..........................................................................................................................55
Table 5: School Location......................................................................................................................55
Table 6: Current Student Enrollment..................................................................................................56
Table 7: Age of Participants.................................................................................................................56
Table 8: Gender of Participants...........................................................................................................57
Table 9: Leadership Competencies Importance..................................................................................58
Table 10: Leadership Competencies Development Need.................................................................58
Table 11: Comparison of LCI Leadership Competency Importance and Development Need........60
Table 12: Demographic Information for Highest Survey Completion Rates.....................................61
Table 13: Additional Training or Development Areas.......................................................................62
Table 14: Important Leadership Skills...............................................................................................63
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Chapter 1

Introduction

Historical Perspectives

Leaders have a tremendous impact in our lives. In a wide variety of organizations leaders have the responsibility of guiding and directing those who are part of those organizations. According to Bennis (2009), the nation and even the world functions through leadership and the quality of our lives is dependent upon the leaders of organizations. Given the importance of leadership, it is essential that leaders are highly skilled and have the ability to provide exceptional leadership.

Leaders impact others through their interactions with them. Those in leadership positions, by the very nature of their role, influence others. As a result, the ability of leaders to have a positive influence is a major aspect of leadership. Yukl (2002) defined leadership as “the process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives” (p. 7). Maxwell (2007) stressed the importance of leadership by stating that the “true measure of leadership is influence—nothing more, nothing less” (p. 16). This influence on individuals impacts their success which in turn contributes to the successfulness of the organization.

The success of the leader is directly connected to the success of organization. Leaders continually define and redefine goals and set goals for improving performance (Bass & Avolio, 1994). According to Yukl (2002), the leader’s effectiveness is often measured by the successful attainment of the organizational unit’s goals. Successful organizations are dependent upon
successful leaders. In order to achieve success, the importance of education, training, and development has a central role. Through education, individuals have the opportunity to develop their skills leading to stronger, more competitive businesses. Of particular importance in the educational field is workforce education. According to Gray and Herr (1998), workforce education has two missions including the promotion of individual opportunity and the development of an economically strong nation.

A branch of workforce education central to the development of a skilled workforce is Career and Technical Education (CTE). This research study focused on the topic of leadership skills for CTE Administrative Directors. By identifying the essential leadership skills important for success as a CTE Administrative Director and the developmental needs of CTE Administrative Directors for these skills, a greater emphasis can be placed on leadership development. As a result, there is the potential for increased levels of success for the CTE Administrative Directors. This, in turn, may impact the successfulness of the schools that they lead, including the personnel and students who are part of these schools. The longer-term impact may be to the local communities and even to society as a whole.

**Overview of Career and Technical Education**

In order to develop a greater understanding of the role of CTE Administrative Directors, a brief overview of the CTE within the United States is presented. CTE has a long history with a rich tradition. The apprenticeship system of the Colonial era provided students the opportunity to learn and master a craft under the supervision of a master craftsperson (Gray & Herr, 1998). In the public school system vocational education programs came under the control of school boards as a result of the federal Smith-Hughes Act of 1917 (PL 64-347). Even though this
legislation was instrumental in the federal government’s role in education, vocational education programs varied by state with little connection between general education and industry (Gray & Herr, 1998).

Throughout the years the federal government’s role in vocational education became stronger. The Vocational Education Act of 1963 (PL 88-210) addressed rising economic and social demands for accessibility. Amendments were made in 1968 and in 1976 to the Vocational Education Act of 1963 further strengthening the federal government’s role in vocational education. Through federal legislation, the government was shaping the climate in the drive to meet the needs of students as well as society (Threeton, 2007).

The federal government continued the theme of meeting the needs and demands of the United States with the passing and implementation of the Carl D. Perkins Act of 1984 (PL 98-524). After several revisions, congress passed the Carl D. Perkins CTE Improvement Act of 2006 (PL 109-270). This particular act is also known as Perkins IV allocating over one million dollars in federal aid for CTE in the United States. Of particular significance, the Carl D. Perkins Act of 2006 brought about the change in terminology from Vocational Education to Career and Technical Education. Along with this change in name, the Carl D. Perkins Act of 2006 was aimed at developing the academic, career, and technical skills of both secondary and postsecondary education students who participated in career and technical education programs by: (a) challenging academic and technical standards; (b) supporting rigorous academic and career and technical instruction linking secondary and postsecondary educational opportunities for CTE students; (c) increasing flexibility at the state and local levels in developing and improving CTE; (d) providing research and dissemination of best practices; (e) providing technical assistance
promoting leadership through professional development for CTE teachers, faculty members, administrators, and counselors; (f) supporting partnerships between secondary and postsecondary education and the workforce; and (g) promoting lifelong learning opportunities for all individuals in a effort to preserve and promote the competitiveness of the United States (Pennsylvania Department of Education, 2015).

In Pennsylvania, the passing of Act 82 in 2012 was also instrumental in bringing about changes in CTE. Act 82 provided the basis for evaluation of professionals in education. Of primary importance is the evaluation of principals on their effectiveness in fostering excellent teachers, creating learning environments that are positive, and increasing and sustaining the academic growth of students (Pennsylvania Department of Education, 2014). The relevance for CTE is the requirement for CTE Administrative Directors to be evaluated using these same standards and guidelines. Given the focus on accountability for school leaders, including CTE Administrative Directors, it is imperative that these leaders have the resources essential to the development of their leadership skills.

The Problem

Leadership is very important in many organizations and the role of the leader has a tremendous impact in the lives of many. Bennis (2009) emphasized the connection between the quality of our lives and those in positions of leadership. The effectiveness of the leader is instrumental to the success of the organization. Yukl (2002) described the measure of the leader’s effectiveness in terms of the successful achievement of the organization’s goals. This is true for many organizations and Career and Technical Education is no exception. In Pennsylvania, the CTE system focuses on “preparing our young people with the academic
foundation, career direction, and workplace skills that will help them succeed personally, and contribute to the innovative and competitive Pennsylvania economy” (Pennsylvania Department of Education, n.d., p. 1).

The leadership of those in CTE administrative positions is instrumental in the successful achievement of these goals. The responsibility of CTE Administrative Directors includes the overall operation of the CTC encompassing many areas including, but not limited to, personnel, finances, curriculum, instruction, facilities, communication, and professional development. Furthermore, leadership responsibilities continually increase due the CTE Administrative Director’s responsibility to meet the requirements of legislation such as the Carl D. Perkins Act, also known as Public Law 109-270 (Clark, Farmer, & Welch, 2010).

Given the constantly changing landscape of education, it is essential for CTE Administrative Directors to have the skills necessary for success. Viviano (2012) emphasized the importance of CTE administrators to be more leader than manager. This is where it may become problematic for CTE Administrative Directors. Managing programs, personnel, and facilities are skills that have been documented (Clark, Walter, Ewing, & Threeton, 2011; Fleck, 2002). On the other hand, information on essential leadership skills for CTE Administrative Directors isn’t readily available (Rodman, 2012). Although a variety of research studies have examined the leadership skills for Superintendents and Principals in academic settings, the availability of actual information related to CTE Administrative Directors isn’t as prevalent. According to Rodman (2012), there is only a limited amount of research on effective leadership in the field of CTE. As a result of the limited information available and the importance of high quality leadership in CTE, this research study seeks to determine which essential leadership
skills are the most important for success as a CTE Administrative Director. Along with these skills, this study sought to determine the skills having the highest need for development by CTE Administrative Directors.

**Purpose of Study and Research Questions**

This study sought to answer to following questions based on Constructivist Learning and Competency Model theories:

1. Which essential leadership skills are important for success as a Career and Technical Education Administrative Director?
2. Which essential leadership skills important for success have the highest development need for Career and Technical Education Administrative Directors?
3. What, if any, relationship exists between the essential leadership skills important for success as a Career and Technical Education Administrative Director and the need for development of these skills?
4. What, if any, relationship exists between demographic variables and the essential leadership skills important for success as a Career and Technical Education Administrative Director?

**Significance of the Study**

Leadership in Career and Technical Education is very important. Given this importance the following questions arise. Which essential leadership skills are the most important for success as a CTE Administrative Director? Which essential leadership skills important for success have the highest development need for CTE Administrative Directors? What, if any, relationship exists between the essential leadership skills important for success as a CTE Administrative
Director and the need for development of these skills? What, if any, relationship exists between the demographic variables studied and the essential leadership skills important for success as a CTE Administrative Director? This study sought to answer these questions.

For the purpose of this study success is defined as receiving a proficient or distinguished performance rating through the Pennsylvania Principal Effectiveness Act 82 (Pennsylvania Department of Education, 2014). By determining which essential leadership skills are important for success as a CTE Administrative Director and the development need of the particular skills, a greater emphasis can be placed on developing these skills. As a result, those currently in CTE Administrative Director positions as well as those aspiring to fulfill CTE Administrative Director roles in the future may benefit. Institutions of higher education may receive benefits from this research as they develop the educational programs to meet the needs of the CTE Administrative Director. Providers of professional development will also have information that will enable them to provide opportunities for CTE Administrative Directors to develop the essential leadership skills important for success.

Assumptions

There are several assumptions that have been made in regard to this research study by the primary investigator. Of vital importance is the assumption that the participants completing the survey would provide accurate information. As a result, it is assumed that the essential leadership skills important for success as a CTE Administrative Director would be identified. It was also assumed that the leadership skills having the highest development need by CTE Administrative Directors would be identified. Another assumption made was that there is a relationship between the essential leadership skills important for success as a CTE
Administrative Director and the need for development of these skills. Along with this, it was assumed that there would be a relationship between the demographic variables selected for identification in this study and the essential leadership skills important for success as a CTE Administrative Director.

**Theoretical Framework**

The theoretical framework used for this research study includes Constructivist Learning Theory and Competency Modeling. Constructivist Learning Theory is a theory of how learning takes place that is grounded in the constructivist theory of knowing (Lambert et al., 2002). Constructivism, as a theory of knowing, is built on the foundation of Piaget, who stressed the importance of the way organisms use mental structures to transform and interpret their experiences as they assimilate these experiences and make meaning (Fosnot, 1992). For Piaget (1977), the central idea is that knowledge is constructed successively and is the result of constantly developing new structures that leads to cognitive equilibrium in one’s life. In other words, new understanding (i.e. learning) is an interpretive act that is cognitively constructed within people (Fosnot, 1992). According to Lambert et al. (2002) the processes of learning, or coming to know, “are influenced and shaped by reflection, meditation, and social interactions” (p. 7).

Constructivist learning theory is based on the following principles: (a) knowledge and beliefs are formed within the learner; (b) learners personally infuse their experiences with meaning; (c) learning activities should cause the learners to gain access to their experiences, knowledge, and beliefs; (d) culture, race, and economic status affect student learning individually and collectively; (e) learning is a social activity that is enhanced by shared inquiry;
(f) reflection and megacognition are essential aspects of constructing knowledge and meaning; (g) learners play a critical role in assessing their own learning; and (h) the outcomes of the learning process are varied and often unpredictable (Lambert et al., 2002).

These principles are briefly discussed as follows.

**Knowledge and beliefs are formed within the learner:** Learning is an interactive process where learners bring their past experiences with them and apply what they know to the new information they are receiving and then assimilates, accommodates, or reframes their prior knowledge to develop a new way of understanding (Lambert et al., 2002).

**Learners personally infuse their experiences with meaning:** The beliefs and values learners bring with them to the learning experience are important and these beliefs and values combined with interactions with other students enable new meaning to be constructed by the learner. (Lambert et al., 2002).

**Learning activities should cause the learners to gain access to their experiences, knowledge, and beliefs:** Throughout the learning process, learners construct new knowledge by building upon what they currently know through a process of reshaping this knowledge in new and meaningful ways (Lambert et al., 2002).

**Culture, race, and economic status affect student learning individually and collectively:** Learning is situated within the context of where students live and learn with higher levels of success resulting of this connection (Lambert et al., 2002).

**Learning is a social activity that is enhanced by shared inquiry:** Learning is a social endeavor as students broaden their perspectives through interacting and engaging with each other during the learning experience (Lambert et al., 2002).
Reflection and megacognition are essential aspects of constructing knowledge and meaning:

Reflection is an integral part of the learning process as learners analyze their learning experiences and construct new knowledge and meaning (Lambert et al., 2002).

Learners play a critical role in assessing their own learning: Self-assessment helps learners to reshape their personal schemas and enables them to actively engage in new learning experiences (Lambert et al., 2002).

The outcomes of the learning process are varied and often unpredictable: Learning is directed by the students enabling them to generate understanding and create meaning as a result of their knowledge, values and beliefs (Lambert et al., 2002).

The second theory that was foundational for this research study is Competency Modeling. The term “competency” has been credited to McClelland (1973) and is defined as “as a characteristic that underlies successful performance” (Dubois & Rothwell, 2004, p. 17). Collectively, competencies form a competency model that is used to identify successful performance in a particular area of work (Dubois & Rothwell, 2004). As a result, identifying the competencies essential for successful performance is very important and critical for the development of skills and ultimately success in the given field.

One method for identifying competencies and developing a competency model is the competency menu method (Dubois & Rothwell, 2004). According to Dubois and Rothwell (2004), this method is utilized by practitioners who rely on previously created lists of competencies to develop a competency model for a given area. Through the identification of essential competencies from this predetermined list a new list is created specifically for the desired occupational area. The process includes: (a) preparing a competency menu by obtaining
a list of relevant competencies from an external source; (b) selecting group members who will
determine the essential competencies for the desired occupational area; and (c) using card
sorts, focus groups, surveys, or a combination of two or three of these methods to modify the
competency menu and create a list of competencies, i.e. a competency model, for the desired
occupational area (Dubois & Rothwell, 2004). For this process to be effective, it is important to
use a valid and reliable competency menu and to select group members who are familiar with
the competencies required for the occupational area.

The theoretical framework that was used for this research study includes Constructivist
Learning Theory and Competency Modeling. Both of these theories undergird the research
process and support the purpose of this study to promote the success of CTE Administrative
Directors. These two theories connect the identification of the essential leadership skills that
are important for success as a CTE Administrative Director with the development of these skills.
Figure 1 illustrates the connection of the two theories with this research study.
Definition of Terms

The following terms are associated with Career and Technical Education and relevant to this study include:

Career and Technical Education (CTE): The term Career and Technical Education (CTE) refers to organized educational activities that offer a sequence of courses having rigorous content that is aligned with challenging academic standards and relevant technical knowledge, that provides technical skills proficiency with associated industry credentials or and associated degree, and includes competency-based applied learning (Pennsylvania Department of Education, 2015).

Competency: For the purposes of this study a competency is “a set of skills, knowledge, attitudes, and behaviors that are observable and measureable, and that contribute to the
excellent performance in a specific job or role” (PSU, Centrestar Inc., & Donahue, 2007, 2011, p. 2).

**Comprehensive Career and Technical Education School:** A full-time Career and Technical Education School that offers comprehensive full-time approved programs where students receive both basic and career and technical education (Pennsylvania Department of Education, 2015).

**Part-Time CTC:** A Career and Technical Education School is where students receive career and technical education. A part-time CTE school is distinguished from a Comprehensive Career and Technical Education school by the curriculum offered at the school. Part-time schools offer career and technical education and Comprehensive Career and Technical Education Schools offer basic education as well as career and technical education to the students.

**Principal:** A principal includes “a building principal, as assistant principal, a vice principal or a director of vocational education” (Pennsylvania Public School Code of 1949, p. 25).

**Chapter Summary**

Leaders promote the success of organizations as they interact and influence those who are part of the organization. In Pennsylvania, CTE Administrative Directors provide the leadership that is instrumental for the meeting the goals set forth by the Pennsylvania Department of Education. Research into the leadership skills important for success as a CTE Administrative Director is limited and this study sought to determine which essential leadership skills are important for success as a CTE Administrative Director. Along with identifying these leadership skills, this study also sought to determine the development need for these
leadership skills by CTE Administrative Directors. The theoretical framework for this study included the Constructivist Learning Theory and Competency Modeling.

The results from this study may be beneficial for current CTE Administrative Directors as well as for those preparing for the role of a CTE Administrative Director. Furthermore, those who provide training and professional development to CTE Administrative Directors may benefit as a result of this study’s findings. The following four chapters include a review of related literature, the methodology used for the study, an analysis of the data, and conclusions and discussion related to the results of the study.
Chapter 2

Review of Related Literature

The topic of leadership has been studied, examined, discussed, and debated for many years. The role of the leader is very important and impacts the organization at many levels. Perhaps one of the most significant influences of leaders is their ability to lead people to achieve a higher level of purpose and to find self-fulfillment (Burns, 1978). Because leadership skills are so critical to success, both individually and collectively, in organizations, it is imperative that leaders are prepared for the work that they have to do.

In the educational system, specifically CTE, the CTE Administrative Director is the one who leads the school working directly with staff members, teachers, education administrators, business leaders, community members, and a host of stakeholders. The leadership role of the CTE Administrative Director is important and critical to the success of the school and students. Preparing CTE Administrative Directors for their leadership responsibilities is an ongoing process.

The concern for finding educational leaders that provide appropriate leadership for the CTE programs has been discussed for many years as highlighted by Zirkle and Cotton (2001) who questioned where future CTE leaders would come from. Zirkle and Cotton (2001) focused on the potential shortage of CTE administrators resulting from the high demands placed upon them along with the significant retirement rate of current CTE administrators. While this concern was specifically brought up a number of years ago, the ongoing need for quality CTE leaders still exists today.
Viviano (2012) expressed the growing concern for CTE leadership in the 21st Century by highlighting a variety of skills including mentoring, evaluating, coaching, and providing professional development for teachers. These are skills that directly impact and influence those who work with the CTE Administrative Director including, but not limited to, the teachers themselves.

With the importance of leadership skills for CTE Administrative Directors as central to the discussion, this literature review will focus on the skills that are essential for success as an CTE Administrative Director. Even though there has only been a limited amount research on CTE leadership skills, there is a relationship between the role of a CTE Administrative Director and the roles of traditional school leaders (Clark & Cole, 2015). As a result, the first section will address the connection between the leadership role of CTE Administrative Directors and the role of the superintendents and the principal. The second section will focus on research pertaining specifically to the role of CTE Administrative Directors. The third section will discuss research pertaining to the roles of superintendents and principals in traditional school leadership settings. The final section will summarize the educational leadership research and highlight the themes that can be observed from the literature reviewed.

CTE Administrative Director and Traditional School Leadership

The connection between the positions of CTE Administrative Directors and traditional academic superintendents is important to discuss. The role of CTE Administrative Directors and that of traditional academic school leaders including superintendents and principals has been considered as one where all three perform many of the same functions (Clark & Cole, 2015). This includes leadership responsibilities such as being an instructional leader, managing a
variety of priorities, dealing with the political environment, and promoting change (Clark, Farmer, & Welch, 2010). School leadership, regardless of the setting have some common functions and leaders in the various settings must be skilled in these areas and adept at handling situations that arise on a daily basis.

In terms of instructional leadership, Rodman (2012) described the role of the principal as the one who is responsible for teacher supervision and assessment. Taking this a step further, the Pennsylvania Department of Education enacted Act 82 of 2012 as the assessment process for evaluating school system principals in Pennsylvania. Along with principals and assistant principals, CTE Administrative Directors are included in this process of assessment (Pennsylvania Public School Code of 1949, 2012). Developing an understanding of the role and functions of CTE Administrative Directors and principals is important due to this close association and the relevance of having a similar assessment process.

Although there is a certain level of similarity between the functions of CTE Administrative Directors and superintendents and principals, it is important to note that leadership in the CTE setting also differs in some respects. CTE Administrative Directors are responsible for additional areas including the application of industry standards to the CTE program areas, cooperative education, Occupational Advisory Committee functions, knowledge of the local workforce and economy, adult education, labor initiatives on both the state and national levels, certification processes for CTE educators, CTE programming and equipment needs, knowledge of state rules and regulations pertaining to CTE, and funding procedures and sources specific to CTE (Clark & Cole, 2015).
Given the vast array of responsibilities of CTE Administrative Directors and the connection between CTE Administrative Directors and superintendents and principals it is beneficial to review the functions of all three leadership roles including CTE Administrative Directors, superintendents, and principals. In the next section literature relevant to CTE Administrative Directors will be discussed. This will be followed by literature specific to the roles of superintendents and principals who provide leadership in the more traditional academic school settings.

**CTE Administrative Director**

It is important for CTE Administrative Directors to have experience in a variety of areas as they provide leadership to the school personnel, stakeholders, and a myriad of others with whom they interact with. Leading and managing are two major areas of responsibility for a CTE Administrative Director. Bennis (2009) differentiates leadership and management by viewing the leader as one who is innovative, is focused on people, inspires trust in others, has a long-range perspective, ask what and why questions, looks at the horizon, originates, challenges the status quo, and does the right thing. On the other hand, managers administer, maintain, focuses on systems and structure, rely on control, has a short-range view, asks how and when questions, watches the bottom line, imitates, accepts the status quo, and does things right (Bennis, 2009).

Rather than to view leadership and management as incompatible, Yukl (2002) asserts that both are essential to the organization’s success and the integration of the two is dependent upon the situation at any given time. According to Yukl (2002), “scholars seem to agree that success as a manager or administrator in modern organizations necessarily involves
leading” (p. 6). The following discussion on CTE Administrative Leadership Skills is divided into two sections. The first section is research focusing on “leadership” skills for CTE Administrative Directors and the second section highlights the “management” skills that have been determined through research as being a priority of CTE.

Leadership Skills

The practical evidence of skills as a leader is demonstrated through performance. In a study with 70 CTE directors Clark, Erwin, and Walker (2012), investigated CTE director performance according to a variety of leadership skills based on the State Inspired Leadership system. The results indicated that the highest rated levels of performance were as follows:

1. Working with teachers and administrators in order to create and implement strategies that would improve the success of students in both the labor market and in higher education. The ability to involve staff and stakeholders in the development of a competency-based curriculum that is of high quality and meets the needs of all CTE requirements and aligns with industry and academic standards.

2. Using data to make informed decisions.

3. The creation of a climate that responds to the needs of students.

4. The development of a budget that meets the goals and priorities of the Career and Technology Center.

5. Managing the resources of the member school districts.

6. The demonstration of personal and professional ethics.

7. Displays and models sound judgment in making decisions in order to maximize student learning opportunities.
8. Identifying and nurturing the strengths of individuals as human resources are leveraged benefitting CTE.

A leader’s performance is demonstrated though behaviors or actions. Rodman (2012) investigated CTE principals using the Vanderbilt Assessment of Leadership in Education (VAL-ED) based on two dimensions of principal leadership behavior. The core components relate to the specific conditions that are used by school leaders to produce student learning and the key processes relate to the way that school leaders create those outcomes in order to produce learning (Rodman, 2012). Based on a survey of 16 principals, 15 supervisors, and 315 teachers, the results indicated that important core components were creating a culture of learning and professional behavior, quality instruction, and high standards for student learning. Results pertaining to the key processes were that of supporting, communicating and monitoring.

A more specific group of behaviors is categorized as instructional. These actions mainly focus on leadership within the school setting. In order to develop an understanding of their perceptions of instructional leadership behaviors, Long (2008) surveyed CTE directors, principals, and teachers. The population included 112 CTE administrators and 564 teachers. An analysis of the data indicated that both the administrators and the teachers believed that framing school goals was the most important instructional leadership behavior or job function. Both the administrators and teachers listed the promotion of professional development as the second highest area of importance. There was a difference of opinion for the third highest area of importance. For the administrators, protecting instructional time was important, whereas for the teachers supervising and evaluating instruction was selected as important. Administrators perceived the fourth important leadership function as the supervision and
evaluation of instruction and the fifth as the monitoring student progress. Teachers viewed protecting instructional time and communicating school goals, respectively, as the fourth and fifth highest areas of important administrative job functions.

Another way to determine leadership skills is by observing the tasks that CTE Administrative Directors perform. In an international research study in Ghana relevant to CTE leadership skills, Boateng (2012) surveyed 284 individuals representing both administrative and academic areas to determine the methods utilized by vocational principals as they performed their leadership roles. The results revealed six specific tasks that were important in their functions as CTE leaders. From highest to lowest, as rated by the participants, they are as follows:

1. Exerts influence outside of the institution.
2. Fosters unity, collaboration and ownership.
3. Establishes an environment that is conducive for learning.
4. Satisfies job-related staff needs.
5. Inspires a shared vision.
6. Exercises power effectively and empowers others to act.

From these leadership roles, the three that received the highest ratings indicating principal effectiveness were exerts influence outside of the institution, fosters unity, collaboration, and ownership, and establishes an environment that is conducive for learning. The implication of this data reflects the connection between the ability of principals to exert influence, particularly outside of the institution, and the attainment of resources, promotion of programs, monitoring
the labor market in order to meet labor market needs, building partnerships, and achieving the goals and objectives set forth (Boateng, 2012).

Leaders have a variety of attributes that result in their actions. These characteristics are important to consider as they impact the way that leaders perform their job tasks or functions. In a research study of Georgia’s Postsecondary Technical Institutes, McElvey, Hall, and Lynch (1997) focused on the leadership attributes of those in CTE leadership roles. For this research, Moss’ Leadership Attributes Inventory (LAI) was utilized to survey 32 presidents and 324 full-time faculty member instructors. The results indicated that the attributes of personal integrity, high ethical standards, and accountability were the top three areas receiving the highest ratings by the presidents. On the other hand, the attributes of being achievement-oriented, assertive and initiating, and energetic with stamina were the highest three according to the instructors.

Leadership attributes of successful vocational administrators were also the focus of research conducted by Finch, Gregson, and Faulkner (1991). In their study a qualitative analysis of data was performed from the interviews of 39 administrators and 28 instructors. The results indicated that successful administrators: (a) have energy and stamina; (b) apply intelligence to practical situations; (c) grasps relations among events; (d) are open to suggestion, criticism, and change; (e) demonstrate creativity and vision; (f) cope well with vague situations; (g) thrive on achievement; (h) accept responsibility for their actions; (i) create opportunities; (j) are confident and accepts one’s own self; (k) are resolute, courageous, and persistent, especially in during times of adversity; (l) are enthusiastic and optimistic; (m) cope well with situations that are stressful and frustrating; (n) are trustworthy and reliable; (o) are emotionally balanced; (p) have a strong sense of pride; (q) grow professionally through both positive and negative
experiences; (r) are committed to activities that benefit others; (s) is good at communication including oral and written communication; (t) are excellent listeners; (u) are respectful and sensitive of others; (v) are good at coordinating and collaborating with others to better the organization; (w) show interest in what others are doing and is concerned about their welfare; (x) are effective planners; (y) are skilled in the organization and implementation of projects; (z) are effective team builders; (aa) are good at coach of others; (bb) are good at making decisions based on relevant information and the contextual situation; (cc) are good at solving problems; and (dd) have skill in obtaining and using relevant information. Although this is a long list, successful administrators draw upon a repertoire of attributes according to the situation as they match their behavior to the context and to the people they are dealing with (Finch et al., 1991).

Leadership qualities are another element contributing to the ability of a leader be effective. Smith (2003) surveyed CTE Administrators in North Carolina and determined the leadership qualities needed in order to be successful as a CTE Administrator. The participants in this research included 33 CTE Administrators representing 117 local school systems. Of the total number surveyed, 22 responded providing data. The results indicated that the top three job tasks where the CTE Administrators spent the most time (i.e., were considered important) were as follows:

1. Instructional leadership.
2. Budget and Finance.
Along with this, Smith (2003) summarized the leadership qualities of an effective CTE administrators as being able to utilize the resources available in order to operate the CTE programs in an efficient and effective manner.

Important leadership qualities include balancing leadership with financial management, being visionary and able to make changes accordingly, being credible with other administrators and teachers, being a model of the excellence expected of others, as well as a good role model and coach, and being good at collaboration and building coalitions. Along with these qualities, effective administrators excelled in the interpersonal skills of communication, perception, and interaction with, and respect for, others. Professional development qualities of effective CTE Administrators included being open to new and innovative ideas as well as having a high level of intellectual curiosity.

Smith (2003) concluded that along with being good administrators, those who were part of this research study stressed the importance of being visionary, credible, reliable, a role-model of excellence, a collaborator, and was able to build coalitions with others as collaborative agreements were developed with other administrators and with the community.

The effectiveness of a leader is impacted by the challenges faced in the course of leading others. In their research, Clark, Farmer, and Welch (2010) focused on the leadership issues and challenges that CTE Administrators faced as they performed their duties. Of the 60 CTE Administrators selected for this study, 38 agreed to participate. The results produced a total of 7 major leadership categories with 38 major issues that the participants believed would have significant implications for CTE in Pennsylvania. The top four main categories and major issues are listed as follows. The highest category and associated issues was professional
development and the provision of staff development enabling the school’s faculty to acquire the skills essential to motivating students to become active participants in the instructional process. The category of leadership was second on their list with the associated issue being the need to have school leaders able to inspire others to support the school’s mission. The category of leadership also came in third with the issue of CTE administrators being able to make decisions based on data. In fourth place was the category of curriculum and instruction. The issue faced in this category was the ability to be effective in providing ways that would be helpful for high school students to increase their academic as well as their technical competence.

**Management Skills**

CTE Administrators are managers as well as leaders. One of the key places that management skills are learned is through CTE Administrative Director internship programs. Clark, Walter, Ewing, and Threeton (2011) collected data from 38 CTE Administrative Directors in Pennsylvania based on the CTE internship competencies. Their findings indicated that the five highest areas of importance are as follows:

1. Administration and Accountability.
2. Administration and Supervision of Curriculum.
3. Professional Development and Leadership.

Of even greater significance were the six highest ranked competencies. The three highest included the following:
1. Prepare and administer an annual budget for a career and technical center.

2. Maintain ethical standards prescribed by the education profession.

3. Comply with collective bargaining contracts pertaining to employment of personnel.

There was a tie for the fourth, fifth, and sixth highest ranked competencies. These three included understanding the purpose of articles of agreement for a career and technical center, interacting with faculty and staff to improve the instructional process, and understanding and complying with federal, state, and special education laws in operating a career and technical center.

In a similar study of the essential duties of a CTE Administrative Director, Fleck (2002) surveyed a group of 11 CTE Administrative Directors in Central Pennsylvania and determined the duties that this group considered as having the highest levels of importance. The data collected was based on The Pennsylvania State University, Workforce Education and Development’s internship requirement competency list of essential duties. This list was divided into eight categories including:

1. Management of Business and Finance.


3. Management of Instruction.


5. Management of Student Services.


7. Management of Communications.

8. Management of Personal/Professional Development.
Each of these eight categories included a list of competencies related to the particular area.

The final comprehensive results indicated that preparing an annual budget was rated the highest. A close second was maintaining the ethical standards of the educational profession. The third most important duty was the evaluation of the personnel’s performance. The categories of duties associated with these competencies were the management of business and finance, the management of personal and professional development, and personnel management, respectively. As a result of this survey, it should be noted that those surveyed chose essential duties from differing categories highlighting the importance of having a variety of skills as a CTE Administrative Director.

Management consists of performing certain tasks corresponding to the particular setting. Specific to CTE was research with the job tasks of Career Preparation System (CPS) Administrators in Michigan by VanderMolen and Zinzer (2009). The goal of this research was to determine the management skills needed by CTE administrators. There were a total of 86 CPS administrators who participated which represented 72% of the total population of administrators. The level of importance and frequency of job tasks were measured to indicate the essential management skills. As a result of the data analysis, the three duty areas considered as most important were Recordkeeping, Personnel Management, and School and Community Relations, respectively. On the other hand, the three most frequently performed duty areas were Program Planning, Development and Evaluation, Integration of Academic and CTE Programs, and Student Services. This research points to a discrepancy between the duties considered as important and the ones that are performed the most. It is essential for CTE
Administrative Directors to be prepared for a broad range of tasks as they perform their job functions.

The actual tasks performed by leaders characterize the management skills that are essential for success. In order to determine important management tasks, Herrin (2013) investigated the practices of CTE directors in two areas—those that were considered as most important and those that were given the highest priority. Of the total population of 46 CTE directors in the state of Indiana, 42 responded and submitted surveys. The two highest rated practices were preparing the Local Perkins Plan budget and promoting the district program. Along with this, the most important category of practices was Business and Financial Management.

The participants indicated that preparing the Perkins Local Plan budget and participating in state career and technical education/administration activities were given the two highest in priorities. Business and Financial Management and Facilities and Equipment Management were the two highest categories of priorities. As a result of this research with CTE directors, Herrin (2013) emphasized that many CTE directors view their position as mostly managerial in nature.

**Traditional Academic School Leadership**

Superintendents and principals are traditional academic school leaders who have an important role in leading school districts and individual schools. Both fulfill a variety of duties and require a multitude of leadership skills. Their ability to lead and manage others impact students, teachers, parents, and stakeholders in a variety of ways. Even though they lead in
traditional academic settings, their leadership roles are similar in many ways to those of CTE Administrative Directors.

The following section focuses on literature related to superintendents and principals who provide leadership in settings similar to that of CTE Administrative Directors. This begins with the leadership role of superintendents in rural school settings followed by the dual superintendent/principal leadership role. The discussion then moves to the role of principals in the middle-school setting, including high-needs middle schools. The final area discussed is leadership as a principal in the elementary setting. While CTE Administrative Directors do not have elementary students in their school on a regular basis, elementary school principals are responsible for a wide variety of responsibilities and is therefore relevant for CTE leadership.

Leadership as a Superintendent in the Rural School Setting

Providing leadership in rural school settings is a context providing insight into the leadership practices of school administrators whose primary leadership role is in this type of setting. Forner, Bierlein-Palmer, and Reeves (2012) studied the leadership practices of superintendents in seven rural districts in a stated located in the Midwest. The theoretical framework for this research was based on Waters and Marzano’s work that identified six leadership practices having a positive link to improved student achievement (Forner et al., 2012). These leadership practices mainly focused on developing and achieving goals.

Seven school superintendents participated in the research. This group was selected on the basis of a set of five criteria that narrowed the pool of possible participants as the process proceeded. The first criterion required employment in one of the 304 rural districts in the state. This was the first step in narrowing the group from the 678 possible districts. Next, the
list was narrowed to those with a demographic profile that was representative of the larger population. This pool was filtered to include “only those rural districts whose high schools had received a letter grade A on the Michigan School Report Card in either the 2007-08 or 2008-09 academic years” (Forner et al., 2012, p. 3). In order to continue to remain in the group, an additional criterion was that the district improved its academic performance throughout the five-year period prior to that particular year. The final criterion was for the superintendents of the district to have worked in the district for a minimum of five years.

Data were collected through multiple case studies that were designed with a focus on the individual cases of the seven superintendents in the districts. Fictitious names were used to maintain privacy. A qualitative study was performed utilizing interviews and coding. This centered on the leadership practices that were cited during the interview.

As a result of the data analysis, three leadership priorities were identified including the importance of all students achieving academic success, of having high quality teachers in all of the classrooms, and of the superintendent acquiring essential financial resources. Along with these leadership priorities, seven leadership practices were found to be important. This included the establishment of goals and expectations by the superintendent leading to reform in the district, support for that reform through conversation, confrontation that is constructive in nature, the removal of teachers and principals who do not perform to expected standards, a close working relationship with building principals, a strong stand by superintendents toward the negotiation of union contracts, and a realignment of financial commitments with district priorities (Forner et al., 2012). According to Forner et al. (2012) these leadership practices were
found to be consistent with a majority of the leadership practices identified by Waters and Marzano.

The implications of this research point to the importance of school leaders aligning the priorities of academic achievement, quality teaching, and acquiring the resources that support quality education with the leadership practices of goal setting, communication, constructive confrontation, personnel management, collaboration, union negotiations, and financial management. By doing so, particularly in rural settings as this research has shown, student achievement will be positively impacted.

Forner et al. (2012) recommended that superintendents in rural settings embrace the opportunities that exist by confronting the need for higher expectations for all of the students and using every opportunity to make sure others know that changes are needed. In order to do this, the school leaders must remain focused on academic reform.

Dual Superintendent/Principal Leadership Role in Education

In some small, rural school settings the school administrator fulfills the both the role of the superintendent and the role of principal in the district. This creates a situation where the leadership responsibilities are very demanding. Canales, Tajeda-Delgado, and Slate (2008) studied the dual role responsibilities of being both the superintendent and principal of small, rural districts in the State of Texas. This research identified the leadership behaviors that were effective as the lone administrators not only met accountability standards, but also followed the required reporting procedures. The leadership behaviors exhibited by these superintendents is important for those who fulfill leadership roles that include a wide variety of activities.
The participants in this research included 37 superintendents/principals, 206 teachers, and 35 school board presidents. This was a sample of the much larger target population of all the rural school districts in Texas. The research was quantitative and the survey design utilized two instruments. For the school administrators the Leadership Behavior Description Form XII Self was used. The Leadership Behavior Description Questionnaire Form XII was used for both the school board members and teachers. These surveys contained 100 items with each falling into 12 subscales indicating a variety of leadership behaviors. After data were collected from the three participating groups, parametric test was used to make the analysis (Canales et al., 2008).

The results of this research revealed that all three groups indicated one of the most important leadership behaviors leading to success is the ability of the administrative leader to provide freedom to others. According to Canales et al. (2008) actions associated with this include “allowing follower’s initiative, decision-making, and action” (p. 7). Along with this, Representation and Consideration were additional leadership behaviors considered essential for success in the dual role administrative position.

This research has implications for the leaders in the educational system. Effective leadership is very challenging and the rural setting has its own set of particular challenges. As the administrative leader fulfills both the role of the superintendent and the role of the principal there is only so much one individual can do. Canales et al. (2008) recommended that job responsibilities should be prioritized, management training completed, resources budgeted, self-evaluations performed, and a network of small school administrators established in order to help dual role administrators be more successful.
Leadership in the Middle School Setting

In a research study of middle school principals Sanzo, Sherman, and Clayton (2011), attempted to determine the impact of leadership skills of middle school principals on student achievement. This study was based on a framework where school leadership is composed of four common core practices including setting directions, developing people, redesigning the organization, and managing the instructional program (Sanzo et al., 2011). These four areas were considered critical to success as a school leader.

There were ten middle school principals who participated in the research study. The participants were selected from schools in the Commonwealth of Virginia that were considered successful. According to Sanzo et al., (2011) this group “represented a diverse cross-section of school sizes, locales, and student groupings” (p. 35). Even so, it is a rather small group considering that all of the middle school principals in the entire state of Virginia were in the total population.

The survey design was qualitative and data were collected through interviews with the principals. An interview guide was used with a total of thirteen questions ranging from how the participants understood the organization to the way they characterized their leadership practices. Four common categories of themes emerged from the survey. These categories included “sharing leadership; facilitating professional development; leading with an instructional orientation; and acting openly and honestly” (Sanzo et al., 2011, pp. 35-36).

The findings of the study were significant even though there were a relatively small number of participants. Successful principals promoted a vision that was shared with others and utilized a leadership structure that sustained a professional community where everyone
shared responsibility of the school. Professional development was regarded as very important and focused on helping teachers to improve, the utilization of available resources, and the development of teams. It was found that successful principals maintained a keen focus on the instructional environment. And lastly, principals who were considered successful were open and honest in sharing their expectations as well as involving the faculty members in making decisions.

**Leadership in High-Needs Middle Schools**

Context is an important consideration for the leadership practices of educators. In a research study by Klar and Brewer (2013) leadership practices by principals were studied with a close association of their particular contexts as they brought about reform and supported student learning. The framework was conceptualized with a model that centered on Comprehensive School-wide Reform (CSR) and the four leadership practices impacting this reform. These practices included setting directions, redesigning the organization, managing direction, and developing people. It is important to note that the relationship between CSR and the four leadership practices were considered bi-directional. Given the notion that CSR and the leadership practices both influence each other and are influenced by each other, it could be suggested that successful leadership is multifaceted with a variety of dimensions.

The participants included in the research were the principals from three middle schools in the southeastern United States. While this group was ultimately selected for study, a much larger group was included in the overall population. A mixed-method (i.e. Quantitative + Qualitative) research approach was utilized for the collection and analysis data. The
quantitative component was used to identify and select the principals who were included in the study. After selection qualitative methods were used to collect and analyze data.

The process began with nominations by superintendents and assistant superintendents. From this three different models were developed and the data analyzed with a three-step regression analysis that used each school’s Absolute Index as the dependent variable. In the first model the poverty index, school enrollment, percentage of prior adequate yearly progress (AYP) objectives met, and percentage of students who had disabilities other than speech were the independent variables. In the second model the independent variable was the length of time in years that the principal had been at the school. The third model added additional predictor variables (Klar & Brewer, 2013). This data analysis resulted in a listing of schools based on performance with three schools being selected for participation in the qualitative component of the research.

Semi-structured interviews were the basis for acquiring the data that revealed the strengths, challenges, instructional capacity, and strategies used to enhance student achievement along with the contributions made by the various principals to these particular strategies. The findings of the research focused on the leadership practices of the principals related to the four essential leadership practices of setting directions, redesigning the organization, managing direction, and developing people. It was found that the principals were good at setting vision, creating high performance expectations, and communicating direction to others. They developed people through opportunities for learning as well as by addressing the individual needs of their staff. The principals changed organizational structures, developed a culture of collaboration, and improved relationships with those in and out of the schools. They
were also very involved with managing instructional programs, selecting staff, and using data to monitor the progress of the students.

The implication of this research is the importance of context. Klar and Brewer (2013) pointed out “in each case we saw principals who were able to identify salient contextual aspects around which they could not only shape their leadership practices but also use school-wide reforms as vehicles for making these changes” (p. 800). Reforming schools is contextual and both understanding and responding to the demographic, cultural, fiscal, and political contexts are vital components of leadership. Leadership is more than just knowing what needs done—it is actual performance in the context of where one is leading. According to Klar and Brewer (2013) the implication is that effective leaders listen to their stakeholders and understand the contexts in which they work.

**Leadership in the Elementary School Setting**

Leadership in the elementary setting provides insight into the skills that are essential in settings where there are not as many administrative positions and personnel as in middle and high school settings (Muse & Abrams, 2011). Given the lone nature of the administrator in this school setting, the leadership skills essential for success are of significance.

This research study was based on the 2008 Interstate School Leaders Licensure Consortium (ISLLC) 2008 standards (Muse & Abrams, 2011). These standards highlighted six functions that indicate strong leadership including a shared vision, supportive school culture for learning and growth, management of the organization, collaboration with one another, ethics and integrity, and the cultural context (Muse & Abrams, 2011). It is also important to note that
these standards reflected broad categories of leadership skills essential for school administrators.

The setting for the research included three school divisions in the state of Virginia. The student populations of these areas ranged from 25,000 to 58,000 students with demographics reflecting a diversity of racial and ethnic student populations. Even though all of these students were not included in the study, having a greater understanding of the general school setting being studied is beneficial.

The participants included in the research were 25 principals aged 30 years and older. In terms of educational attainment, 22 had master’s degrees and 3 doctoral degrees. Of this population, 20 were females and five were males. While gender differences were not specifically studied, there is the possibility that gender does have a significant impact on leadership skills and could be included in additional research.

According to Muse and Abrams (2011), the study followed a qualitative design utilizing “face-to-face, semistructured interviews” (p. 52). The interviews were supplemented with a log that was completed by the principals providing details related to their specific duties. The principals also submitted a written mission statement. Coding was used to analyze and categorize the data collected. Several themes emerged from this analysis related to the leadership role and job requirements of the principals.

The findings that were significant included the role of the principal as one who leads by example, builds relationships, creates a vision, understands the community, manages and leads instruction, and is child-centered. Essential job requirements included having a leadership focus, school accountability, and a familiarity with standards. In addition to these skills, being
an instructional leader as demonstrated through delegating, prioritizing, and balancing one’s job were found to be important.

Chapter Summary

The landscape of CTE is constantly changing and CTE Administrative Directors bear the responsibility of leading their schools forward by providing high quality programs that meet the needs of the workforce. This literature review focused on skills that are important for CTE Administrative Directors to develop and continually focus on in order to provide the highest level of leadership possible. The literature reviewed included the leadership and management skills of CTE Administrative Directors, Superintendents, and Principals. A wide variety of individuals from the CTE setting to the academic setting may find this information valuable in promoting leadership abilities and professional development programs that meet the needs of the CTE community.

As a result of the literature reviewed, three themes have been identified. First, there are a variety of essential skills that are important for CTE Administrative Directors. These skills fall into the two broad categories of leadership and management. Second, the essential leadership skills important for CTE Administrative Directors appear to be communication, collaboration, visioning, decision-making, ethics and personal integrity, and building relationships with others. Third, CTE Administrative Directors must be good managers. The literature reviewed indicated that budget and finance, personnel management and supervision, and facility management skills were a significant part of the work of CTE Administrative Directors.
The literature reviewed in this chapter came from a variety of sources, over a lengthy timespan, and yet there is much more to be known about the role of the CTE Administrative Director. This is particularly true as CTE Administrative Directors provide the leadership in the current time as well as in the future. The principal investigator recommends that additional research be completed to determine the important leadership skills that are essential for success as a CTE Administrative Director. These studies have the potential to provide relevant information benefitting CTE, the field of education, and the workforce.
Chapter 3

Methodology

Leadership is a very important topic and has been given a tremendous amount of attention in a variety of settings. The focus of this research study was on the leadership skills that are important for success as an Administrative Director in Career and Technical Education. Administrative Directors have a very important leadership role in the educational setting and impact the lives of students, teachers, parents, community members and even to a larger extent the society in which we all are a part of. This study examined four areas including:

1. The essential leadership skills important for success as a CTE Administrative Director.
2. The development need of these skills by CTE Administrative Directors.
3. The potential relationship between the essential leadership skills important for success and the development need of these skills by CTE Administrative Directors.
4. The potential relationships between these skills and the demographic variables associated with the CTE Administrative Directors.

Given the importance of leadership, this topic was examined for the purpose of developing a deeper knowledge of the essential leadership skills important for success as a CTE Administrative Director. This information may be beneficial to current and future CTE Administrative Directors, institutions of higher education who provide education and training for those preparing for a CTE Administrative Director role, and providers of professional development who present opportunities for CTE Administrative Directors to enhance their leadership skills.

The Problem
Bennis (2009) placed a high emphasis on the connection between leaders and the quality of our lives. According to Yukl (2002), the level of effectiveness of our leaders is measured by the successful achievement of the goals of the organizations that the leaders are leading. CTE Administrative Directors have the responsibility of leading Career and Technology Centers in areas such as personnel management, finances, curriculum, facilities, communication, and the professional development of those whom the CTE Administrative Director supervises (Clark et al., 2010). The leadership role of CTE Administrative Directors includes managing programs, personnel, and facilities (Clark et al., 2011; Fleck, 2002). This is only a part of role that CTE Administrative Directors fulfill and leadership skills such as communication, collaboration, developing a vision, making decisions, ethical responsibility, and building relationships may also be very important, although these skills do not seem to have been studied as extensively (Rodman, 2012). By identifying these types of leadership skills there are potential positive benefits for the field of Career and Technical Education. This also has the potential to benefit our nation’s workforce.

**Target Population**

Given the lack of research pertaining to the essential leadership skills important for success as a CTE Administrative Director, this study examined this topic through a survey of CTE Administrators who were successful in fulfilling their leadership role. The CTE Administrator group surveyed included 44 participants from the 36 CTCs in the central region of Pennsylvania served by The Pennsylvania State University, Workforce Education and Development, Professional Personnel Development Center (see Figure 2).
The participants were actively certified in the state of Pennsylvania during the time of the survey as indicated by the Pennsylvania Department of Education, Teacher Information System (PDE TIMS, 2016). Since a sample size of 40 participants is recommended for a total population of 45, the total population was used as the list of potential participants included this study (Krejcie & Morgan, 1970).

**Research Questions**

This study sought to answer the following questions based on Constructivist Learning and Competency Model theories:
1. Which essential leadership skills are important for success as a Career and Technical Education Administrative Director?

2. Which essential leadership skills important for success have the highest development need for Career and Technical Education Administrative Directors?

3. What, if any, relationship exists between the essential leadership skills important for success as a Career and Technical Education Administrative Director and the need for development of these skills?

4. What, if any, relationship exists between demographic variables and the essential leadership skills important for success as a Career and Technical Education Administrative Director?

**Variables**

**Dependent variables**

The dependent variables for this study were the leadership skill importance and the development need of these leadership skills for each of the 35 Leadership Competency Inventory (LCI) leadership competency areas (PSUCaPE, 2007). These competency areas include computer and basic literacy, conceptual thinking, learning and information, self responsibility and management, interpersonal competence, technical competence, resource usage, understands systems, oral communication, written communication, interpersonal relationship building, leadership and coaching, flexibility and resilience, problem solving, decisiveness, self direction, resource management, diverse workforce, conflict management, teamwork and cooperation, influencing and negotiating, human performance management, planning and evaluation, customer focus, management controls, financial management and budgeting,
technology management, creative thinking, vision, external awareness, strategic thinking and planning, leading change, job-specific technical competencies, occupational technical competencies, and industry-wide technical competencies. Along with these competency areas, dependent variables also include the leadership areas that respondents feel that they need additional training or development in and the respondents listing of leadership skills that are the most important for CTE Administrative Directors.

**Independent variables**

The independent variables in this study were the demographic areas including the respondents’ CTE administrative position, experience in CTE administration, route to CTE administrative certification, school setting, school location, current student enrollment, participant’s age, and gender.

**Instrumentation**

The Leadership Competency Inventory (LCI) (PSUCaPE, 2007) was the instrument that was used to gather data for this study (see Appendix A). This survey was instrumental in identifying leadership training needs for PSUCaPE and has also been used to assess the leadership development needs of supervisors and managers in both private and public organizations (Joon Yoon, Hoon Song, Donahue, & Woodley, 2010). Furthermore, the LCI has been shown to be reliable and valid though a study of health care workers and managers (Yoon et al., 2010).

The LCI consists of 35 areas reflecting a variety of leadership competencies as follows: (a) computer and basic literacy; (b) conceptual thinking; (c) learning and information; (d) self responsibility and management; (e) interpersonal competence; (f) technical competence; (g)
resource usage; (h) understands systems; (i) oral communication; (j) written communication; (k) interpersonal relationship building; (l) leadership and coaching; (m) flexibility and resilience; (n) problem solving; (o) decisiveness; (p) self direction; (q) resource management; (r) diverse workforce; (s) conflict management; (t) teamwork and cooperation; (u) influencing and negotiating; (v) human performance management; (w) planning and evaluation; (x) customer focus; (y) management controls; (z) financial management and budgeting; (aa) technology management; (bb) creative thinking; (cc) vision; (dd) external awareness; (ee) strategic thinking and planning; (ff) leading change; (gg) job-specific technical competencies; (hh) occupational technical competencies; and (ii) industry-wide technical competencies. For each of these areas respondents rate the level of importance and their need for development using a likert-type scale with “1” being the lowest and “5” being the highest.

Along with the leadership competency importance and the development need of these skills were two open-ended questions used to gather qualitative data pertaining to any additional areas in which the respondents believe that they need additional training and development as well as their perception of the three most important leadership skills for CTE directors. Demographic data were also gathered providing information for the respondents’ CTE administrative position, experience in CTE administration, route to CTE administrative certification, school setting, school location, current student enrollment, participant’s age, and gender.

Review of Procedures

The LCI survey instrument used for this study was reviewed for face and content validity, format, and clarity by an expert panel including:
Dr. Mark Threeton: Assistant Professor of Education in the Workforce Education and Development Program and the Associate Director of the Professional Personnel Development Center for Career and Technical Education at The Pennsylvania State University. Dr. Threeton consults, teaches, and conducts research in the areas of occupational safety and health within school environments and the broader workforce, facilities management and experiential learning as well as publishes widely in scholarly research journals and books.

Dr. Judith Kolb: Associate Professor of Education in the Department of Learning and Performance Systems at The Pennsylvania State University. Dr. Kolb teaches both graduate and undergraduate courses and is experienced in small group and team leadership and facilitation as well as work engagement, learning culture and transfer, and ethics teaching and training.

Dr. Wesley Donahue: Associate Professor of Management Development and Education in the Department of Learning and Performance Systems at The Pennsylvania State University. Dr. Donahue teaches both graduate and undergraduate courses and is experienced in workforce education, adult education, organization development, succession planning, workplace training, and management and leadership.

Dr. John Ewing: Associate Professor of Agricultural and Extension Education and Undergraduate Program Coordinator in the Department of Agricultural Economics, Sociology, and Education at The Pennsylvania State University. Dr. Ewing teaches both graduate and undergraduate courses and is experienced in teacher preparation, experiential learning, and laboratory instruction and management.

Following the review by the expert panel, the LCI survey was pilot tested by a group of 10 Career and Technical Education Distinguished School Leaders (CTDSL). This group was
comprised of experienced CTE Administrators who are retired from their school leadership positions and are now working with the Pennsylvania Technical Assistance Program to improve academic and occupational achievement in Career and Technical Education.

**Data Collection**

Data was collected for this research study during the Penn State Summer 2016 semester. The LCI survey was provided to CTE Administrative Directors, CTE Assistant Directors, and CTE Principals working at the Career and Technical Centers served by the Penn State Workforce Education and Development Professional Personnel Development Center. The required clearance was obtained from The Pennsylvania State University Office for Research Protections related to the inclusion of human subjects in this research study (see Appendix B).

In order to increase the response rate of the survey, Dillman, Smythe, and Christian’s (2014) recommendations were utilized. Of particular importance was the application of social exchange to the design of the survey (Dillman et al., 2014). This included increasing the benefits of participation by highlighting the importance of this survey to the participants along with the benefits to CTE as a result of their participation. Potential participants received this information via e-mail, telephone, and face-to-face discussion. By appealing to the tendency for the CTE Administrators to help as well as to fulfill their professional and social responsibility the result was beneficial. In addition, showing positive regard, expressing verbal appreciation, supporting the values of the CTE leadership group, providing a survey questionnaire that is interesting and easy to complete, providing social validation, and informing the potential respondents of the limited research in the area of leadership skills for CTE Administrative Directors promoted higher levels of response to the survey (Dillman et al., 2014).
The survey was distributed by e-mail using the Qualtrics Survey Platform (Qualtics, 2016) to the selected recipients. This survey platform provides online survey construction, distribution, analysis of results, and reporting (Qualtrics, 2016). All of the potential participants received an individual e-mail in order to establish a connection with them (Dillman et al., 2014). There were no returned e-mails and follow-up reminder e-mails were sent according to the initial response rate. At a minimum, an e-mail reminder was sent 7 days after the initial e-mail, with additional e-mail reminders every 7 days. Individual face-to-face contacts and telephone calls were also made to encourage participation and the completion of the survey.

Analysis of Data

The primary research methodology used in this study was quantitative. A very limited qualitative analysis of data was included for the two open-ended questions used in the survey. The goals of this research study and methods of calculation were as follows. First, this study sought to determine the essential leadership skills important for success as a CTE Administrative Director. This was the first research question and the results were determined through a calculation of central tendency and dispersion from the ordinal scale data received.

Second, this study sought to determine the development need among CTE Administrative Directors for the essential leadership skills important for success as a CTE Administrative Director. This was the second research question and the results were also determined through calculating central tendency and dispersion from the ordinal scale data received.

Third, this study sought to determine the potential relationship between the essential leadership skills important for success as a CTE Administrative Director and the development
need of these skills. The data received for this, the third research question, was analyzed with a cross tabulation analysis using the Qualtrics Survey Platform (Qualtrics, 2016) to determine if any statistical correlations existed.

Fourth, this study sought to determine the potential relationships between the demographic variables and the essential leadership skills important for success as CTE Administrative Director. This was the fourth research question and the data for this question was analyzed with a cross tabulation analysis using the Qualtrics Survey Platform (Qualtrics, 2016) to determine if any statistical correlations existed. The results of the cross tabulation analyses are reported in chapter four.

The qualitative analysis of the two open-ended survey response items was performed in order to determine any other areas where the participants felt that they needed additional training and development as well as their view of the three most important leadership skills for CTE Administrative Directors. Of particular importance during this qualitative analysis was the triangulation of data in order to confirm the findings (Miles, Huberman, & Saldana, 2014). This was achieved by utilizing three subject matter experts, the principal investigator and two doctoral committee members, to independently review the survey data and identify common themes. By using these separate sources to review the data received from the qualitative questions intercoder reliability was maintained (Marshall & Rossman, 2016). Following the independent review, the subject matter experts met and identified the common themes according to a calculation of the frequency by response. The qualitative analysis, even though limited in scope, provided some very important information. This will be discussed in Chapter 4 along with the results of the quantitative data analysis performed.
Chapter Summary

The importance of leadership has been emphasized over the years (Bennis, 2009; Yukl, 2002). Even so, the leadership skills important for success as a CTE Administrative Director has not received as much attention through scholarly research (Rodman, 2012). Chapters 1, 2, and 3 of this study focused on the importance of the topic of leadership skills for CTE Administrative Directors and the need for research into this area. By targeting a specific area in central Pennsylvania, surveying the CTE Administrative Directors in this area and performing an analysis of the survey data beneficial information was received.

These benefits included the determination of which essential leadership skills are the most important for CTE Administrative Directors, the development need of these skills by CTE Administrative Directors, the potential relationships that existed between the essential leadership skills important for success as a CTE Administrative Director, and the potential relationships that also existed between the demographic variables and the essential leadership skills important for success as a CTE Administrative Director. In the next section, Chapter 4, discussion will focus on the analysis of the data received. This will be followed with conclusions, discussion, limitations, and recommendations in Chapter 5.
Chapter 4

Analysis of Data

The purpose of this study was to determine which essential leadership skills are important for success as a Career and Technical Education (CTE) Administrative Director, the development need of these skills by CTE Administrative Directors, the relationships, if any, that exist between the essential leadership skills important for success as a CTE Administrative Director and the need for development of these skills, and the relationships, if any, that exist between demographic variables and the essential leadership skills that are considered important for success as CTE Administrative Director.

The research methodology utilized for this study was quantitative in nature. In addition to the quantitative survey items there were two open-ended questions included in the survey that provided additional qualitative information. The first question requested the participants to list any other areas that they felt they needed additional training and development. The second question asked the participants to list what they believed were the three most important leadership skills for CTE Administrative Directors. A single questionnaire, the LCI (PSUCaPE, 2007) was administered via the Qualtrics survey system (Qualtrics, 2016). Qualtrics (Qualtrics, 2016) was also used to perform the statistical analysis of the survey data. This chapter presents the analysis of the data received and is divided into four sections including survey participation, background of the participants, research findings, and chapter summary.

Survey Participation

The total population for the LCI survey included 44 CTE Executive/Administrative Directors, Assistant Directors, Principals, Superintendents, and Program Coordinators within the
central region of Pennsylvania. These individuals were actively certified in the state of Pennsylvania during the time of the survey as indicated by the Pennsylvania Department of Education, Teacher Information System (PDE TIMS, 2016). The survey was administered and the data collected during the Penn State 2016 summer semester. There were 44 potential participants with a total of 40 initially beginning the survey. Of the 40 participants that started the survey, 37 completed most portions providing usable responses; the demographic questions yielded 36 respondents. As a result, the actual survey response rate represented 84% of the target population with 93% of those who began the survey completing it as calculated by the ratio of those who completed the survey compared to those who initially started it.

Given the limited number of potential participants serving in CTE Administrative positions in the central region of Pennsylvania, extensive efforts were taken to achieve a high survey completion rate. These included sending e-mail reminders, making telephone calls, and very importantly, having individual face-to-face contacts with potential participants. Consequently, these efforts had a positive influence resulting in an increased participation rate in the study and possibly even a higher level of completion of the survey items.

**Background of Participants**

Demographic data for this study was collected from the participants including their CTE administrative position, experience in CTE administration, route to CTE administrative certification, school setting, school location, current student enrollment, participant’s age, and gender. The following provides the results of the demographic data collected through the LCI survey as analyzed with the Qualtrics survey system (Qualtrics, 2016).
CTE Administrative Position

The first demographic question asked the participants to select the best description of their CTE administrative position. Of the 36 participants who responded to this question, 22 (61%) reported that they were the Executive/Administrative Director, 7 (19%) were in an Assistant Director position, 4 (11%) were principals, and 3 (8%) selected the “other” category (see Table 1).

Table 1
Administrative Position (n=36)

<table>
<thead>
<tr>
<th>Administrative Position</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive/Administrative Director</td>
<td>61.11</td>
<td>22</td>
</tr>
<tr>
<td>Assistant Director</td>
<td>19.44</td>
<td>7</td>
</tr>
<tr>
<td>Principal</td>
<td>11.11</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>8.33</td>
<td>3</td>
</tr>
</tbody>
</table>

Note. The three individuals who identified their administrative position as “other” listed their positions as an administrative director in a comprehensive school, a superintendent, and a program coordinator.

Total Years of Experience in CTE Administration

For the second demographic question the participants were asked to list their total years of experience in CTE administration. The results of the 36 who completed this question includes 14 participants (38.8%) with 0.5-5 years of experience, six participants (22.2%) with 6-10 years of experience, 5 participants (13.8%) with 11-15 years of experience, six participants (16.6%) with 16-20 years of experience, one participant (2.7%) with 21-25 years of experience, one participant (2.7%) with 26-30 years of experience, and one participant (2.7%) with 31-35 years of experience (see Table 2).
Table 2

*Years of Experience in CTE Administration (n=36)*

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5–5</td>
<td>38.8</td>
<td>14</td>
</tr>
<tr>
<td>6–10</td>
<td>22.2</td>
<td>8</td>
</tr>
<tr>
<td>11–15</td>
<td>13.8</td>
<td>5</td>
</tr>
<tr>
<td>16–20</td>
<td>16.6</td>
<td>6</td>
</tr>
<tr>
<td>21–25</td>
<td>2.7</td>
<td>1</td>
</tr>
<tr>
<td>26–30</td>
<td>2.7</td>
<td>1</td>
</tr>
<tr>
<td>31–35</td>
<td>2.7</td>
<td>1</td>
</tr>
</tbody>
</table>

**Route to CTE Administrative Certification**

The third demographic question asked participants to indicate their route to CTE Administrative Certification. Of the 36 participants that completed this question 25 (69%) followed the traditional vocational administrative certification route, 5 (14%) received certification through the alternative (provisional) vocational administrative director certification route, and 6 (17%) reporter another route to certification (see Table 3).

Table 3

*Route to CTE Administration (n=36)*

<table>
<thead>
<tr>
<th>Certification Route</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional Vocational Administrative Director Certification</td>
<td>69.44</td>
<td>25</td>
</tr>
<tr>
<td>Alternative (Provisional) Vocational Administrative Director Certification</td>
<td>13.89</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>16.67</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note.* Responses for “Other” include principal certification, superintendent’s letter of eligibility, and academic teacher to co-op to director.

**School Setting**

In response to the fourth demographic question that asked the participants to indicate what best describes their school setting, of the 36 participants that responded 13 (36%)
specified that they were at a Full-Time (Comprehensive) school and 23 (64%) specified their school setting as Part-Time (see Table 4).

Table 4

<table>
<thead>
<tr>
<th>School Setting</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time (Comprehensive)</td>
<td>36.11</td>
<td>13</td>
</tr>
<tr>
<td>Part-Time</td>
<td>63.89</td>
<td>23</td>
</tr>
</tbody>
</table>

School Location

The fifth demographic question asked participants to describe the location of their school. Of the 36 that responded to this question, 22 (61%) were in a rural setting, 13 (36%) were in a suburban setting, and 1 (3%) was in an urban setting (see Table 5).

Table 5

<table>
<thead>
<tr>
<th>School Location (n=36)</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>61.11</td>
<td>22</td>
</tr>
<tr>
<td>Suburban</td>
<td>36.11</td>
<td>13</td>
</tr>
<tr>
<td>Urban</td>
<td>2.78</td>
<td>1</td>
</tr>
</tbody>
</table>

Current Student Enrollment in School

The participants were asked to indicate the current student enrollment in their school for the sixth demographic question. Of the 36 participants that completed this question, 9 (25%) had a student enrollment of 200-299 students, 5 (14%) had 300-399 students, 4 (11%) had 400-499 students, 1 (3%) had 500-599 students, 2 (6%) had 600-699 students, 3 (8%) had 700-799 students, 1 (3%) had 900-999 students, and 11 (31%) had 1000 or more students, (see Table 6).
Table 6  
*Current Student Enrollment (n=36)*  

<table>
<thead>
<tr>
<th>Student number</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-199</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>200-299</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>300-399</td>
<td>13.89</td>
<td>5</td>
</tr>
<tr>
<td>400-499</td>
<td>11.11</td>
<td>4</td>
</tr>
<tr>
<td>500-599</td>
<td>2.78</td>
<td>1</td>
</tr>
<tr>
<td>600-699</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>700-799</td>
<td>8.33</td>
<td>3</td>
</tr>
<tr>
<td>800-899</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>900-999</td>
<td>2.78</td>
<td>1</td>
</tr>
<tr>
<td>1000 or more</td>
<td>30.56</td>
<td>11</td>
</tr>
</tbody>
</table>

**Age of Participants**

The seventh demographic question asked the participants to indicate their age by category. Of the 36 participants, 5 (14%) reported being in the 36-40 category, 7 (19%) in the 41-45 category, 10 (28%) in the 46-50 category, 3 (8%) in the 51-55 category, 7 (19%) in the 56-60 category, 2 (6%) in the 61-65 category, and 2 (6%) in the 66-70 category (see Table 7).

Table 7  
*Age of Participants (n=36)*  

<table>
<thead>
<tr>
<th>Age range</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>36-40</td>
<td>13.89</td>
<td>5</td>
</tr>
<tr>
<td>41-45</td>
<td>19.44</td>
<td>7</td>
</tr>
<tr>
<td>46-50</td>
<td>27.78</td>
<td>10</td>
</tr>
<tr>
<td>51-55</td>
<td>8.33</td>
<td>3</td>
</tr>
<tr>
<td>56-60</td>
<td>19.44</td>
<td>7</td>
</tr>
<tr>
<td>61-65</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>66-70</td>
<td>5.56</td>
<td>2</td>
</tr>
</tbody>
</table>

**Gender of Participants**
The eighth, and final demographic question, asked participants about their gender. Of the 35 who answered this question, 10 (29%) indicated female and 25 (71%) listed male as their gender (see Table 8).

<table>
<thead>
<tr>
<th>Gender</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>71.43</td>
<td>25</td>
</tr>
<tr>
<td>Female</td>
<td>28.57</td>
<td>10</td>
</tr>
</tbody>
</table>

Research Findings

Research Question 1

Which essential leadership skills are important for success as a Career and Technical Education Administrative Director? The first research question was answered by calculating the statistical mean for the level of importance for each of the 35 leadership competencies listed in the LCI survey. The five leadership competencies with the highest mean scores were identified as having the most importance. After calculating the results of the LCI, it was determined that the participants indicated self-responsibility and management (M = 4.92) as the most important leadership competency. The second highest rated leadership competency was leadership and coaching (M = 4.86). The participants rated written communication (M = 4.83) as the third highest leadership competency. The fourth and fifth leadership competencies, conceptual thinking (M = 4.81) and oral communication (M = 4.81), both had the same mean scores (see Table 9).
Research Question 2

Which essential leadership skills important for success have the highest development need for Career and Technical Education Administrative Directors? The second research question was answered by calculating the statistical mean for the development need of each of the 35 leadership competencies listed in the LCI survey. The five leadership competencies with the highest mean scores were identified as having the highest levels of development need. The results of the LCI survey indicated that external awareness ($M = 2.94$) was the leadership competency with the highest development need. The second highest rated leadership competency development need was strategic thinking and planning ($M = 2.89$). Following these two were the third, fourth, and fifth leadership competencies which all had the same mean score ($M = 2.86$). These three included human performance management, financial management and budgeting, and technology management (see Table 10).

Table 9
Leadership Competencies Importance

<table>
<thead>
<tr>
<th>Leadership Competency Importance</th>
<th>Minimum</th>
<th>Maximum</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Responsibility and Management</td>
<td>4.00</td>
<td>5.00</td>
<td>4.92</td>
<td>0.27</td>
<td>37</td>
</tr>
<tr>
<td>Leadership and Coaching</td>
<td>4.00</td>
<td>5.00</td>
<td>4.86</td>
<td>0.35</td>
<td>36</td>
</tr>
<tr>
<td>Written Communication</td>
<td>4.00</td>
<td>5.00</td>
<td>4.83</td>
<td>0.37</td>
<td>36</td>
</tr>
<tr>
<td>Conceptual Thinking</td>
<td>4.00</td>
<td>5.00</td>
<td>4.81</td>
<td>0.39</td>
<td>37</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>4.00</td>
<td>5.00</td>
<td>4.81</td>
<td>0.40</td>
<td>36</td>
</tr>
</tbody>
</table>

Table 10
Leadership Competencies Development Need

<table>
<thead>
<tr>
<th>Leadership Competency Development Need</th>
<th>Minimum</th>
<th>Maximum</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Awareness</td>
<td>1.00</td>
<td>5.00</td>
<td>2.94</td>
<td>1.07</td>
<td>35</td>
</tr>
<tr>
<td>Strategic Thinking and Planning</td>
<td>1.00</td>
<td>5.00</td>
<td>2.89</td>
<td>1.26</td>
<td>35</td>
</tr>
<tr>
<td>Human Performance Management</td>
<td>1.00</td>
<td>5.00</td>
<td>2.86</td>
<td>1.10</td>
<td>35</td>
</tr>
<tr>
<td>Financial Management and Budgeting</td>
<td>1.00</td>
<td>5.00</td>
<td>2.86</td>
<td>1.33</td>
<td>35</td>
</tr>
<tr>
<td>Technology Management</td>
<td>1.00</td>
<td>5.00</td>
<td>2.86</td>
<td>1.10</td>
<td>35</td>
</tr>
</tbody>
</table>
Research Question 3

What, if any, relationship exists between the essential leadership skills important for success as a Career and Technical Education Administrative Director and the need for development of these skills? The third research question sought to determine whether or not there was a relationship between the essential leadership skills important for success as a CTE Administrative Director and the need for development of these skills and if so, just exactly what this relationship was. A cross tabulation analysis was completed in order to find the answer to this research question. The findings revealed no statistically significant association due to an expected frequency of less than five in the cells of the Chi-Square tests. As a result, a statistical relationship between the essential leadership skills important for success as a CTE Administrative Director and the need for development of these skills could not be determined.

While a cross tabulation analysis did not confirm any statistical relationships, the results are still valid and provide beneficial information. A comparison of the statistical mean scores of the leadership competency importance and the development need revealed three interesting findings. The first finding is the difference between the mean scores for the “Importance” and the “Development Need” of the leadership competencies. The mean scores for “Importance” ranged from a 4.08 to 4.92 while the “Development Need” mean scores ranged from 2.08 to 2.94. The second finding is that the leadership competency “Self Responsibility and Management” was rated as the highest in terms of “Importance” (M = 4.92) but rated as the lowest for the “Development Need” (M = 2.08) by the participants. The third finding relates to a lack of connection between the participants’ selection of important leadership competencies and their selection of their need for development of certain leadership competencies. A
comparison of the mean scores revealed that none of the leadership competencies rated in the
top ten for importance were included in the top ten for the development need (see Table 11).

Table 11
Comparison of LCI Leadership Competency Importance and Development Need

<table>
<thead>
<tr>
<th>Importance</th>
<th>Development Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCI Question #/Competency</td>
<td>M</td>
</tr>
<tr>
<td>5, Self Responsibility &amp; Management</td>
<td>4.92</td>
</tr>
<tr>
<td>13, Leadership &amp; Coaching</td>
<td>4.86</td>
</tr>
<tr>
<td>11, Written Communication</td>
<td>4.83</td>
</tr>
<tr>
<td>3, Conceptual Thinking</td>
<td>4.81</td>
</tr>
<tr>
<td>10, Oral Communication</td>
<td>4.81</td>
</tr>
<tr>
<td>15, Problem Solving</td>
<td>4.79</td>
</tr>
<tr>
<td>12, Interpersonal Relationship Building</td>
<td>4.75</td>
</tr>
<tr>
<td>26, Management Controls</td>
<td>4.75</td>
</tr>
<tr>
<td>8, Resource Usage</td>
<td>4.72</td>
</tr>
<tr>
<td>6, Interpersonal Competence</td>
<td>4.70</td>
</tr>
</tbody>
</table>

Research Question 4

What, if any, relationship exists between demographic variables and the essential leadership skills important for success as a CTE Administrative Director? This fourth, and final, research question focused on determining whether or not a relationship existed between the demographic variables and the essential leadership skills important for success as a CTE Administrative Director and if any relationships were found, to determine what the relationship or relationships were. A cross tabulation analysis was completed in order to find the answer to this research question. The findings revealed no statistically significant association due to an expected frequency of less than five in the cells of the Chi-Square tests. As a result, a statistical
relationship between the demographic variables and the essential leadership skills important for success as a CTE Administrative Director could not be determined.

While a statistical relationship was not confirmed the results are still valid and provide important information. A comparison the demographic information revealed that this survey was predominately completed by executive/administrative directors (61%), who followed a traditional vocational administrative director route to certification (69%), were in a part-time CTE school setting (64%), described their school setting as rural (61%), and were of the male gender (71%) (see Table 12).

Table 12

Demographic Information for Highest Survey Completion Rates

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Participant Survey Completion %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive/Administrative Director</td>
<td>61</td>
</tr>
<tr>
<td>Traditional Vocational Administrative Director Certification</td>
<td>69</td>
</tr>
<tr>
<td>Part-Time CTE School Setting</td>
<td>64</td>
</tr>
<tr>
<td>Rural School Location</td>
<td>61</td>
</tr>
<tr>
<td>Male Gender</td>
<td>71</td>
</tr>
</tbody>
</table>

Additional Research Findings

A qualitative analysis using two open-ended survey response items was performed in order to gather additional information. The first survey item focused on additional areas that the participants felt they needed training and development. A second item asked the participants to list what they believed were the three most important leadership skills for CTE Administrative Directors.

Areas for additional training and development.

The first open-ended survey response item asked the participants if there were any other areas in which they felt that they needed additional training and development. Three
subject matter experts, including the principal investigator and two doctoral committee members, received a listing of the survey responses from the participants and reviewed the information individually to identify common themes. This analysis was performed by calculating the frequency by response of the survey data. After an independent review was completed, a meeting of the three subject matter experts resulted in the consensus that time management was the most noteworthy area where additional training and development was needed (see Table 13).

Table 13

<table>
<thead>
<tr>
<th>Additional Training or Development Areas (n=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
</tr>
<tr>
<td>Time management</td>
</tr>
</tbody>
</table>

**Important leadership skills.**

The second open-ended survey response item asked the survey participants to list what they believed were the three most important leadership skills for CTE Administrative Directors. The responses were reviewed by the three subject matter experts, the principal investigator and two doctoral committee members, in order to identify common themes through a calculation of the frequency by response. Following the independent review, a meeting was held with the subject matter experts and, by consensus, five noteworthy leadership skills were identified. These included relationships/networking, creating/promoting vision, diverse leadership, communication, and personnel development (see Table 14).
Chapter Summary

The purpose of this study was to determine which essential leadership skills are important for success as a Career and Technical Education (CTE) Administrative Director, the development need of these skills by CTE Administrative Directors, the relationships, if any, that exist between the essential leadership skills important for success as a CTE Administrative Director and the need for development of these skills, and the relationships, if any, that exist between demographic variables and the essential leadership skills that are considered important for success as CTE Administrative Director. The results of the data and information received through the LCI survey and presented in this chapter revealed that the leadership skills important for success as a CTE Administrative Director include self responsibility and management, leadership and coaching, written communication, conceptual thinking, and oral communication. The essential leadership skills important for success having the highest development need by CTE Administrative Directors include external awareness, strategic thinking and planning, human performance management, financial management and budgeting, and technology management.

Table 14
*Important Leadership Skills (n=22)*

<table>
<thead>
<tr>
<th>Response</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships/Networking</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>Creating/Promoting Vision</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>Diverse Leadership</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>Communication</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>Personnel Development</td>
<td>4</td>
<td>18</td>
</tr>
</tbody>
</table>
A statistically significant relationship could not be confirmed between the essential leadership skills important for success as a CTE Administrative Director and the need for development of these skills. Even so, three interesting findings associated with this area were identified. The first was a difference between the mean scores for the importance and the development need of the leadership competencies included in the LCI survey. The second was that the mean score for the highest rated leadership competency, self responsibility and management, also received the lowest mean score for development need. Third, a comparison of the mean scores reflects a lack of connection between the importance of the leadership competencies and their development need.

A statistically significant relationship could not be confirmed between the demographic variables included in the survey and the essential leadership skills important for success that were identified by the survey participants. The demographic data did reveal that this survey was predominately completed by male executive/administrative directors who followed a traditional vocational administrative director route to certification and were in a part-time rural CTE school setting.

The results of two open-ended qualitative survey items identified one area, time management, that participants believed additional training and development was needed. Along with this, relationships and networking, creating and promoting a vision, diverse leadership, communication, and personnel development were identified as five noteworthy leadership skills.
Chapter 5

Conclusions, Discussion, Limitations, and Recommendations

In order to highlight and support the leadership role of Career and Technical Education (CTE) Administrative Directors this study focused on determining the essential leadership skills that are important for success as a CTE Administrative Director and the development need of these skills by CTE Administrative Directors. Also studied were the relationships that existed between these leadership skills and their development need, as well as the relationships that existed between a variety of demographic variables and the essential leadership skills that were determined to be important for success as a CTE Administrative Director. The following includes conclusions, discussion, limitations, and recommendations.

Conclusions

Leadership in CTE is very important and the role of the CTE Administrative Director encompasses leadership skills along with managerial type skills (Viviano, 2012). What is problematic is the lack of research available pertaining to effective leadership in CTE (Rodman, 2012). Of vital importance is the identification of leadership skills that impact success along with the need for the development of these skills.

This study provides information that may benefit the CTE community by answering the following questions based on a foundation of the Constructivist Learning and Competency Model theories:

1. Which essential leadership skills are important for success as a Career and Technical Education Administrative Director?
2. Which essential leadership skills important for success have the highest development need for Career and Technical Education Administrative Directors?

3. What, if any, relationship exists between the essential leadership skills important for success as a Career and Technical Education Administrative Director and the need for development of these skills?

4. What, if any, relationship exists between demographic variables and the essential leadership skills important for success as a Career and Technical Education Administrative Director?

To answer these questions data were gathered through the Leadership Competency Inventory (LCI) from a group of successful CTE Administrators within the center region of Pennsylvania during the summer of 2016. Included in the study were 44 CTE Administrators from a variety of school settings, sizes, and demographics. Of this group, 40 responded and began the survey with a total of 37 completing the survey providing usable responses. This represented 84% of all the potential CTE Administrators in this geographical area.

The CTE Administrators who completed the LCI survey were leading in variety of CTE administrative positions ranging from executive/administrative directors, assistant directors, principals, superintendents, and program coordinators with 0.5-34 years of experience in CTE leadership. The age of the participants ranged from 36-70 years of age with both males and females included in the group that completed the LCI survey. Participants prepared for their certification through both traditional and alternative (provisional) vocational administrative director certification routes. These individuals were providing leadership in both full-time
comprehensive and part-time CTE schools located in rural, urban, and suburban setting with enrollments ranging from 200 to more than 1000 students.

The first research question focused on the leadership skills that are important for success as a CTE Administrative Director resulting in the identification of five important leadership competencies. Included were the self responsibility and management, leadership and coaching, written communication, conceptual thinking, and oral communication (see Table 9). Prior research (Clark, et al., 2012; Clark, et al., 2010; Boateng, 2012; Rodman, 2012; Long, 2008; Smith, 2003; McElvey, et al., 1997; Finch, et al., 1991) identified communication, collaboration, visioning, decision-making, ethics and personal integrity, and building relationship with others as important leadership skills for CTE Administrative Directors. The participants of this study corroborates these findings and supports the importance of leadership skills focusing on responsibility, communication, and relationships with others.

The second research question moved beyond leadership importance to the development needs for CTE Administrative Directors. While past research studies provided information related to important leadership skills for CTE Administrative Director, this study also included the need for development of these skills. The five leadership competencies that were selected as having the highest development need included external awareness, strategic thinking and planning, human performance management, financial management and budgeting, and technology management (see Table 10). Although these skills were not identified as developmental needs in prior research, there is a connection to the management type of skills for CTE Administrative Directors. Prior research studies (Herrin, 2013; Clark, et al., 2011; Fleck, 2002; VanderMolen & Zinzer, 2009) identified budget and finance, personnel management and
supervision, and facility management as important management skills for CTE Administrative Directors. As a result, this research study confirms the importance of management skills such as personnel management and budget and finance through the identification of the need for the development of human performance and financial management skills.

The third research question sought to determine whether or not a relationship existed between the essential leadership skills important for success as a CTE Administrative Director and the need for the development of these skills. Past research studies often tended to highlight the leadership and management skills that are important for CTE Administrative Directors rather than to specifically list the developmental needs for these skills. Even though statistical relationships between the essential leadership skills important for success as a CTE Administrative Director and the need of the development of these skills could not be confirmed through a cross tabulation analysis, this study does identify three interesting findings based on the mean scores of the survey data.

The first finding is a difference between the mean scores for the importance of the leadership skill competencies and the development need of these competencies. While importance was rated very high with the mean scores ranging from 4.08 to 8.92, the ratings for the need for development of the leadership skills was much lower with mean scores ranging from 2.08 to 2.94. A second finding is that the self responsibility and management leadership competency received the highest rating for importance but was rated the lowest for its development need. The third finding is that the ten leadership skills rated as highest for importance were not included in the top ten ratings for the need for development.
The fourth, and final, research question focused on determining whether or not a relationship existed between the demographic variables included in the survey and the essential leadership skills important for success as a CTE Administrative Director. The analysis of the data did not confirm a statistical relationship between the demographic variables and the leadership skills. Even so, the demographic information indicated that there was a predominant group made up of male executive/administrative directors who were certified through a traditional vocational administrative certification route. These individuals were also in rural, part-time CTE school settings.

Along with the survey items that addressed the four research questions, two open-ended survey response items provided additional qualitative relevant to the topic of CTE leadership. The first open-ended LCI survey question focused on additional areas that the participants felt that they needed training and development. Three subject matter experts reviewed the information received from this question and, by consensus, identified time management as the most noteworthy area in need of development by the survey participants. Given the increasing demands of CTE Administrative Directors (Viviano, 2012; Clark, et al., 2010; Zirkle, 2001) time management may be a very important skill leading to successful performance.

The second open-ended LCI survey question asked the participants to list what they believed were the three most important leadership skills for CTE Administrative Directors. Five leadership skills—relationships/networking, creating/promoting vision, diverse leadership, communication, and personnel development—were identified by the three subject matter experts as noteworthy as a result of their survey response analysis. These five areas correspond with the leadership and management skills identified in prior CTE leadership
research studies (Clark, et al., 2012; Boateng, 2012; Rodman, 2012; Clark, et al., 2011; Clark, et al., 2010; VanderMolen & Zinzer, 2009; Long, 2008; Smith, 2003; Fleck, 2002; McElvey, et al., 1997; Finch, et al., 1991).

Discussion

CTE Administrative Directors provide leadership that promotes the success of the school, including the teachers, staff members, stakeholders, and students. In order to fulfill this role, CTE Administrative Directors perform a variety of duties that require both leadership and management skills (Viviano, 2012; Clark, et al., 2011; Fleck, 2002). This study examined the essential leadership skills that are important for the success as a CTE Administrative Director. Along with the identification of these skills, this study also examined the development need for these skills by CTE Administrative Directors as well as the relationship between the leadership skills and their development need and the relationship between the demographic variables included in the study and the essential leadership skills important for success as a CTE Administrative Director.

As a result of this study, prior research has been confirmed indicating that both leadership and management skills are components of the leadership role of CTE Administrative Directors. The data and information received from this study reveal important leadership skills for CTE Administrative Directors include self responsibility and management, leadership and coaching, conceptual thinking, written and oral communication, relationships and networking, creating and promoting a vision, diverse leadership, and personnel development. These skills align with prior research in CTE leadership indicating the importance of a variety of leadership
skills such as communication, collaboration, visioning, decision-making, ethics and personal integrity, and building relationships with others.

This study adds to the research knowledge by including the development need among CTE Administrative Director for certain leadership skills. These include having an external awareness of the interests and policies of others, thinking and planning strategically, human management of staff and teachers, financial management and budgeting, the management and use of technology, and time management skills. It is important to note that the highest rated development needs did not directly align with the highest rated leadership skills in this study. Furthermore, the mean scores for “Importance” ranged from 4.08 to 4.92 and the “Development Need” mean scores ranged from 2.08 to 2.94 reflecting the difference between the LCI survey participants’ perception of the importance of leadership skills and the need for development of these skills. An explanation for this may be that 69.44% of the participants followed a traditional route to administrative director certification. As a result of their formal training their perceived need for development may be lower than their view of the importance of leadership skills.

It is also important to note that the demographic data for this study indicated that it was predominantly completed by male executive/administrative directors following a traditional vocational administrative director route to certification and who were providing CTE leadership in a rural, part-time CTE school location and setting. This group of CTE Administrative Directors may tend to view both leadership and the need for development based on their school and even life situations. Even though this group of participants may or may not have specifically influenced the overall results of this study, the demographic data does indicate that there is a
predominant demographic group of individuals providing leadership in CTE settings in Central Pennsylvania.

This study sought to promote the success of CTE Administrative Directors by providing a deeper level knowledge of the essential leadership skills that are important for success. By identifying these skills and the need for their development those currently in CTE leadership as well as those preparing for CTE Administrative positions can be better prepared with the necessary leadership skills that will lead to their success. Leaders influence others (Yukl, 2002; Maxwell, 2007) and organizations are dependent upon those who provide leadership (Bennis, 2009). The success of the educational system, and specifically CTE, is depends on leaders who are well prepared and highly skilled.

The preparation and skill development of CTE Administrative Directors is directly connected with the results of this study. Research conducted during this study was based on Constructivist Learning Theory and Competency Modeling. By identifying important leadership skills, also known as competencies, and then promoting their acquisition based upon the individual learner, the essential leadership skills important for success can be developed by current and future CTE Administrative Directors resulting in higher levels of success by the CTE leaders. Figure 2 illustrates this in a practical way.
Limitations

The limitations to this study are described as follows. This study is limited by its inability to generalize the results to the larger population of CTE Administrators. There are two important points related to this. The first is given that only CTE Administrators in Central Pennsylvania were surveyed, the findings pertain to this particular region in Pennsylvania and may not be generalized to the larger CTE population statewide or at the national level. The second point is that by using a survey that relied on self-reporting by the participants to gather data, and even though the CTE Administrative Directors surveyed are expected to perform their duties at the highest level and be up-to-date on the current state of CTE in Pennsylvania, the
actual information received through self-reporting reflects the views of this particular group and may not be reflective of the larger CTE population.

Another limitation pertains to the number of participants included in the study. Since the total population for this study included 36 CTCs in the central region of Pennsylvania, with a potential of 44 participants from these schools, the actual amount of data received was limited. The impact of this was the inability to perform the cross tabulation statistical analysis for both the relationships between the essential leadership skills important for success as a CTE Administrative Director and the need for development of these skills and the relationships between the demographic variables and the essential leadership skills important for success as a CTE Administrative Director.

The final limitation presented here was the potential for researcher bias given the primary investigator’s lengthy history in CTE. In order to limit this influence, the LCI survey was used providing predominately objective data. Along with this, the analysis of the two open-ended qualitative survey items was completed by three independent sources including the principal investigator and two subject matter experts from the doctoral committee.

**Recommendations**

The effectiveness of CTE Administrative Directors in the performance of their leadership role and associated duties is very important. As the landscape of education changes due to societal and workforce changes, CTE Administrative Directors have the responsibility of leading their schools in ways that meet the continually changing challenges they face. CTE Administrative Directors are leaders as well as managers and a variety of skills are essential. While management skills for CTE Administrative Directors have been documented (Clark, et al.,
2011; Fleck, 2002), research focused on effective leadership in CTE is limited (Rodman, 2012). This study has resulted in additional information that may be beneficial to the CTE community and to the field of education. The following are recommendations based on this study’s conclusions. These recommendations are provided for the field of CTE leadership and for future study.

**Recommendations for the Field of CTE Leadership**

There are a variety of recommendations where an increased focus may be very beneficial for CTE leaders. The first recommendation pertains to currently practicing CTE Administrators including CTE Administrative Directors, CTE Assistant Directors, and CTE Principals. For these individuals, the results of this study can be used to promote the development of the leadership and management skills essential for success as CTE Administrators. By identifying these skills through the input of current, successful CTE Administrators, those currently providing leadership in CTE settings can promote their own leadership skill level by focusing on the development of the important leadership skills. Along with this, those preparing for CTE leadership roles will have a wealth of information that will guide them as they prepare for future leadership positions in CTE.

The second recommendation is for CTE leadership preparation programs. The results of this research will enable those who provide leadership development training for future CTE Administrators to focus on a variety of activities that includes both the development of leadership skills as well as management skills. Even though certain leadership skills have been identified as important by CTE Administrators, the ability to manage CTE programs and personnel is also very important. This does not necessarily mean the addition of leadership
development courses to the curriculum. Rather than requiring additional coursework, it may be more beneficial to combine leadership skill development with management skill training. As a result, leadership skills will be developed in close association with management skills in much the same way as when CTE Administrators will lead while managing their CTE schools.

The third recommendation relates to leadership skill development by those that provide professional development opportunities for CTE Administrators. The results of this research will enable these providers to focus on activities that include the development of both leadership skills and management skills. These professional development activities could be developed to provide activities that promotes the development of leadership skills while increasing the ability to manage CTE schools, programs, and personnel.

The fourth recommendation is for the development of CTE Leadership Academies that will provide the opportunity for practicing CTE Administrators to continue to develop their leadership skills. Of primary importance is implementation of cohort groups enabling CTE Administrators to join together with their peers to develop their leadership skills. This has the potential to connect CTE Administrators with one another and strengthen the connection between those currently providing CTE leadership. As a result, a collegial atmosphere will be promoted along with the development of important leadership skills by those who participate.

A fifth, and final, recommendation is an increased emphasis on the ability to effectively manage time. The participants in this research indicated that time management was an area where additional training and development was needed. Given this, special attention should be devoted to this topic and activities specifically developed and promoted for both current CTE Administrators as well as with those preparing for roles in CTE administration. These activities
could be provided by CTE Leadership preparation programs and professional development providers as well as implemented in the CTE Leadership Academies.

**Recommendations for Future Study**

Given the importance of the leadership that is provided by CTE Administrators and the limited amount of information related to CTE leadership, the following are several recommendations for future study. The first recommendation is that this study should be replicated in additional areas including the entire state of Pennsylvania, other states, and even nationally. Research focused on all of the CTE Administrators in the state of Pennsylvania could provide information beneficial to this particular group. It also has the potential to increase the number of participants and provide additional information through a more detailed statistical analysis of the data. The next step could be to include additional states in order to provide information relative to the particular state and also as a way to compare and contrast CTE leadership on a more regional basis. Taking this research one step further to the national level could provide a wealth of data and information beneficial to the CTE community, workforce education, and the society at large.

The second recommendation is to perform research into the ways that CTE Administrative Directors develop their leadership skills. Having a list of essential leadership skills important for the success of CTE Administrators in beneficial and conducting research into the ways that these skills are developed has the potential to be extremely beneficial. This research could include those participating in the research for this study or with a much larger CTE administrative group from the entire state of Pennsylvania and even with CTE administrators from other states. The result of this research from practicing CTE Administrators
could provide valuable information on their points of view and the leadership development methods that are the most effective.

The third recommendation is that CTE leadership should be studied from a variety of points of view including CTE teachers, Joint Operating Committee members, superintendents, and principals. These groups are all important stakeholders in CTE and have an impact on CTE in a variety of ways. CTE Administrators interact with the individuals who make up these groups as they lead the schools in fulfilling its mission by providing high-quality education to the students. By conducting research that focuses on the viewpoints of others, valuable information can be gathered that can be utilized in the identification and development of critical leadership skills by CTE Administrators.

The fifth, and final, recommendation is in the area of time management. Since time managements was specifically identified by the CTE Administrators as a need for additional training and development, conducting research in this specific area may be very beneficial. This could include the ways that CTE Administrators effectively manage their time as well as general time management techniques that can be applied to CTE leadership. The information received from the time management research could then be shared with CTE Administrators, CTE Leadership Preparation Programs, and with those providing professional development for CTE Administrators. The outcome may be very beneficial and have a positive impact on the time management skills of those in CTE administration.
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Administrators/Educator%20Effectiveness/Principals%20and%20CTC%20Directors/Principal%20Effectiveness%20Program%20Brochure.pdf


Smith-Hughes Act of 1917, PL 64-347 *American Decades Primary Sources.* Ed. Cynthia


Appendix A

Leadership Competency Inventory (LCI)
Note: The Leadership Competency Inventory (LCI) is available from Dr. Wesley Donahue at wed105@psu.edu
Appendix B

Office for Research Protections Approval E-Mail
From: irb@psu.edu
To: jaf275@psu.edu
Subject: STUDY00001897 has been approved
Date: Tue, Feb 24, 2015 09:19 AM

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Notification of Approval

To: Joey Fleck
Link: STUDY00001897
P.I.: Joey Fleck
Title: Essential Leadership Skills for CTE Administrators

This submission has been approved. You can access the correspondence letter using the following link:

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