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BRIDGING THE GAP IN WORKFORCE READINESS
THROUGH SECONDARY EDUCATION

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A DISSERTATION

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Abstract

Workforce readiness of entry-level employees was an age-old interdisciplinary concern not only for the business industry but also the education industry and the political arena as well. According to the United States Department of Labor, there were not enough qualified employees to fill the open positions within the business industry (2012). The lack of workers impacted the level of production and/or the quality of service, which indirectly impacted the economy. Due to concerns about the competitiveness of the United States in a global economy, the political arena enacted legislation to improve workforce readiness through student achievement, which impacted the education industry. The study began with an examination of the interconnectedness of the United States economy, politics, and education in relation to the preparation secondary students received prior to entry into the workforce.

The study used qualitative research and grounded theory to investigate the phenomenon of unqualified workers upon entry into the workforce from the perspective of those near the end of the developmental process in the PK-12 educational system. The study consisted of qualitative interviews with eleventh grade students as to their perception of awareness and application of 21st Century skills in the classroom as well as the relevance and transference to the workforce. Purposely selected participants were interviewed to determine where, how, and why the connection between the classroom and workforce occurred with regard to the transference of 21st Century skill.

Dedication

This study was a labor of love and passion dedicated to those past, present, and future that I so humbly serve. They have not only inspired me to do more than settle for the status quo, but also challenged me to change the world on their behalf. It is my greatest honor to be a trusted companion on their journey for a reason, season, or lifetime.

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CHAPTER ONE: INTRODUCTION

Introduction

The quality of workers entering the workforce has been a topic of discussion for more than 30 years since the *Nation at Risk* (NAR) Report (US Department of Education, 1983). Subsequently, there have been multiple follow-up reports, such as *The Forgotten Half* (William T. Grant Foundation, 1988), the *Secretary's Commission on Achieving Necessary Skills* (1991), *Rising Above the Gathering Storm* (2005), *Are They Really Ready to Work* (Casner-Lotto & Barrington, 2006), and *Critical Skills Survey* (AMA, 2010) all of which concluded that employees were still inadequately prepared to enter the workforce. Furthermore, the issue was compounded by the lack of a universal instrument and formal methodology to quantify the gap in workforce readiness (ACT, 2011; Mourshed, Farrell, & Barton, 2012). The intent of the interdisciplinary study was to examine the phenomenon that continued to exist between workforce and education in terms of product quality of entry level employees and the actions taken within the constructs of secondary education to address workforce preparation.

There were multiple factors that impacted the perception of a worker's level of competence upon entry into the workforce, which was problematic for multiple stakeholders (Mourshed et al., 2012). One such factor was the methodology used by previous workforce policy papers to measure the skill gap. The data collection methodology included surveys based on employer perspective and/or analysis of aggregate labor market supply/demand where education attainment level was a proxy for degree of skill aptitude (ACT, 2011). Unfortunately, a diploma does not provide an accurate assessment of an individual's analytical or writing capabilities (Mourshed et al.,

2012). Another factor that impacted the perceived level of competence was stakeholder perspective, beliefs, and values (Mourshed et al., 2012). From the perspective of the business industry, there were not enough qualified workers to fill open positions (AMA, 2010; Casner-Lotto & Barrington, 2006; Dormer, 1992; Mourshed et al., 2012).

Employment figures and reports from business and industry leaders indicated a mismatch between employer needs and the basic academic knowledge, technical skills, and professionalism that the current and future workforce possessed upon entry (AMA, 2010; Casner-Lotto & Barrington, 2006; Dormer, 1992). The perspective was further complicated by the fact that social and cognitive skills have different meanings depending upon the industry (Mourshed et al., 2012). From the standpoint of the American public and governmental agencies, there were too many unemployed and underemployed graduates, while some jobs went unfulfilled according to the United States Bureau of Labor Statistics (2013; Mourshed et al., 2012; Symonds et al., 2011). Meanwhile, a significant number of secondary educational institutions prepared future employees with a liberal arts education, which mandated very little in the way of vocational or technical curriculum for all students (Dormer, 1992; Mourshed et al., 2012). Furthermore, the primary and secondary levels of the education industry were subject to the demands of regulating agencies and isomorphic pressure from competitors, stakeholders, and societal beliefs (Fletcher, 2012; Hatch & Cunliffe, 2006). From the perspective of future employees, there seemed to be market failure with regard to formal education in that it was difficult to compare how quality of institutions and rigor of curriculum affected a graduate's ability to attain employment and acclimate to the world of work (Bardach, 2009; Mourshed et al., 2012; Sewall, 2010; Symonds, Schwartz, &

Ferguson, 2011). Thus, the reason for the study was to develop a theory that defined the breakdown in processing of the educational system.

This long-standing concern goes back to a report that was produced by the Committee for Economic Development entitled “*Investing in Our Children: Business and the Public Schools*” (1985). The report cited as the primary concern a lack of basic skills in reading, writing, and mathematics as well as negative attitudes toward work and improper behavior on the job (Dormer, 1992). In the years following the report, a variety of intervention strategies were implemented within the secondary level of educational institutions to develop workforce readiness. The strategies included programs of study, career readiness curriculum with assessments, career academies, business partnerships, student internships, and curriculum integration (Castellano, Stringfield, & Stone, 2003; Perry & Wallace, 2012). However, none of these strategies have been able to definitively close the gap that continued to exist between the expectations of the business industry for its entry-level employees and what was produced by the education industry (Symonds et al., 2011). Upon graduation, a key component was still absent in the development of qualified entry-level employees (Mourshed et al., 2012; Symonds, Schwartz, & Ferguson, 2011). Additionally, these strategies have not achieved maximum impact, scalability, and transferability of workforce readiness skills for all students (ACT, 2006; Meeder, 2012). The intent of the study was to determine what actions at the secondary level of education increased awareness and engaged all students in the development and transference of the workforce readiness skills desired by employers?

Statement of Problem

The United States economy and its stakeholders faced many challenges in relation to the disconnect that existed between what the workforce required in terms of its future employees and how educational institutions prepared future employees (Harris, Handel, & Mishel, 2004). Students were being prepared to enter the workforce with skills based on employer expectations from the Industrial Age (Collins & Halverson, 2009; Gilbert, 2005). Meanwhile, society expected secondary educational institutions to prepare students with curriculum focused in liberal arts based on the assumption that the majority of students would enroll in a post-secondary institution (Mourshed et al., 2012).

As secondary schools were the last level of mandatory education, it was imperative for students to acquire the workforce readiness skills desired by employers not only to succeed in the workforce, but to indirectly enhance the US economy (ACT, 2013; NCEE, 2007; Warner, Gates, Christenson & Kiernan, 2011). Twenty-first Century skills such as problem solving, communication, and teamwork were taught within the constructs of compulsory PK-12 education; however, the transference of these skills to the workforce was determined by employers to be inadequate (ACT 2006; AMA, 2010; Casner-Lotto & Barrington, 2006; Mourshed et al., 2012; Symonds et al., 2011). Often, these skills were contextualized and refined through paid employment (Greene & Staff, 2012). Thus, workforce readiness skill awareness, application, and transference were essential to increased employee competence upon entry into the workforce for secondary students (ACT, 2013).

Conceptual Framework

The basis for the interdisciplinary study with relation to the perceived gap in workforce readiness utilized a constructivism worldview with social science theoretical lens in the areas of the United States economy, politics, and education. The study lent itself to structural functionalism, where parts of the system contributed to the functioning of the whole (Creswell & Plano-Clark, 2011). Within the construct of the larger economic system, the educational system prepared employees to enter the workforce system, all of which were influenced by the political system (Mourshed et al., 2012). The mismatch that existed between education and business in relation to employee preparation and readiness was studied from the perspective of a student within a secondary educational institution through an emerging grounded theory research design.

The disconnect that existed between what employers required in terms of its future employees and the preparation process of educational institutions stemmed from multiple sources depending upon the level of abstraction and the perspective from which it was viewed (Mourshed et al., 2012). From one standpoint, the problem was attributed to the relationship between the stage of economic development and the pedagogy associated with workforce preparation (Collins & Halverson, 2009; Gilbert, 2005; NCEE, 2007). Also related to economic development was a second standpoint in that generational differences impacted the perception as to an employee's degree of preparedness (Murphy, 2007; Green, 2013). A third standpoint to consider was the impact of educational reform on the degree of worker preparedness (Bailey & Merritt, 1997; Castellano et al., 2003). To accurately evaluate the issue of workforce readiness, it

was imperative that the viewpoints of the economy, business, and education were taken into consideration.

At the macro-level of abstraction, the economy shifted over the last 50 years, from industrialization to expansion and management of information and was in the process of shifting, yet again, to a conceptual economy (Gilbert, 2005; Pink, 2006). Industry enhancements automated routine tasks; thereby, reducing the need for production or assembly line workers. Improvements in technology increased mobility; thereby, allowing companies to outsource information and knowledge type jobs to other countries where wages were generally lower (NCEE, 2007; Pink, 2006; Warner et al., 2011). Each of these changes required some of the workers in the United States workforce to possess a different and more intellectually based set of skills. Those entering the workforce were prepared with educational pedagogy consistent with the Industrial Age, in which industrial development and manufacturing were the driving forces of the economy that required only general conceptual capabilities of employees (Gilbert, 2005). However, the current Knowledge Age, in which intellectual capital and ideas were the driving forces of economic development, created significant need for higher level learning behaviors and skills that included adaptability, free-thinking, and decision making (Gilbert, 2005; Zhao, 2009). Meanwhile, current high school students needed to be prepared with skills for the Conceptual Age, in which creativity, innovation and conceptual thinking will drive the economy (Casner-Lotto & Barrington, 2006; NCEE, 2007; Pink, 2005). Students should acquire skills that include critical thinking, problem solving, communication, collaboration, creativity, innovation, and globalization

as well as be prepared for an ever-changing workforce for their entire working life (Gilbert, 2005; P21, 2009; Zhao, 2009).

An additional element associated with the larger concept of economic development was the perception that workforce readiness was impacted by the influence of generational differences between those in management and those entering the workforce (Murphy, 2007). A significant number of individuals who were in upper levels of management were of the Baby Boomer generation whose educational preparation was based upon the skills needed to enter the workforce of an industrial economy. The new employees entering the workforce were classified as Generation X or Millennial whose formal secondary educational preparation shifted only slightly from that of the Baby Boomers in terms of increased focus on core academics and technology usage. However, their informal educational preparation via the benefits of the Knowledge Age altered their priorities, values, and beliefs (Green, 2013). The differences in preferred communication styles, response to managerial and motivational strategies, as well as the values and work ethic of each generation influenced the perception of inadequately prepared employees.

At the micro-level of abstraction of the broader concept of economic development, workforce readiness was impacted by political efforts to reform education (Gerring, 2012). Education reform came into prominence in 1965 when the United States government established the Elementary and Secondary Education Act (ESEA). The education industry was highly influenced by the mandates from the regulating agencies at multiple governmental levels as evidenced in such federal legislation as No Child Left Behind (NCLB), state legislation in relation to Common Core State Standards (CCSS),

and local mandates such as those associated with the Learning Community of Douglas and Sarpy Counties in Nebraska (Cameron-McCabe, McCarthy, & Eckes, 2014). Thus, school reform affected an integral part of an employee's level of preparedness to enter the workforce. The success of the education industry and more specifically that of individual secondary educational institutions were typically measured through achievement scores, graduation rates, and college entrance rates, rather than employment outcomes and successful transition to the world of work (Mourshed et al., 2012; Symonds et al., 2011). However, achievement test scores only account for 20 percent of an individual's future success according to Zhao (2009).

According to the results of the Programme for International Student Assessment (PISA), which was sponsored by the Organisation for Economic Co-operation and Development (OECD), the United States was no longer in the top 10 for academic performances in the global arena (2009). Despite the fact that, in 2007, the United States' outspent other industrialized nations by an average of \$3,000 per pupil (Warner et al., 2011). The PISA assessment measured how well students applied previously learned knowledge to new situations. According to the OECD report United States students showed "weakness in performing mathematics tasks with higher cognitive demands such as taking real-world situations, translating them into mathematical terms, and interpreting mathematical aspects in real-world problems" (2012). Furthermore, in 2007, the United States claimed only 14 percent of college students worldwide (NCEE, 2007). The demands of the current Knowledge Age and impending Conceptual Age as well as a global economy coupled with decreased academic performance and increased costs have created an opportunity for educational reform of the current educational standards,

methodologies, and system that were developed during the Industrial Age (Gilbert, 2005; Mourshed et al., 2012; NCEE, 2007).

Purpose of the Study

The purpose of this qualitative grounded theory study in relation to the perceived gap in workforce readiness was to determine if, when, where, and how workforce readiness skills were learned within the construct of secondary education and the perceived relevance, application, and transference of the desired skills upon entry into the workforce. This study examined the discrepancy that existed between education and business in relation to employee preparation and readiness from the perspective of students enrolled in secondary educational institutions (Mourshed et al., 2012). Educators believed that students were taught the 21st Century skills that employers desired such as problem solving, critical thinking, and teamwork; however, students may or may not have developed awareness, synthesis, and transference between academic disciplines and eventual application in the workforce (Meeder, 2012).

Research Question

The use of an overarching question implied a universal study that satisfied the phenomenon interests of both the education and business industries through development of a theory. The study was guided by the research question of what theory explained the discrepancy in workforce readiness of secondary students? The study contributed to the research on workforce readiness by answering the following sub-questions:

1. How does awareness of employer entry-level readiness expectations impact secondary students' development of 21st Century skills, specifically problem solving, communication, and teamwork?

2. What actions at the secondary level of education engaged students in development and transference of the workforce readiness skills desired by employers?

Methodology

The qualitative grounded theory research study was based on a constructivist worldview within the theoretical of social science (Creswell & Plano-Clark, 2011). The study was theory oriented because of the diverse perspective of multiple stakeholders as well as the social and historical construction that surrounded the phenomenon of workforce readiness. Furthermore, there was a disparity of literature associated with 21st Century skill development and transference specifically related to secondary students. To explain the phenomenon of the long-standing gap in employee preparedness upon entry into the workforce, grounded theory methodology was used to establish an emergent theory. The study was designed to gain data in regards to the participants' awareness and application of 21st Century skills within the constructs of secondary education as well as the relevance and transference into the workforce. The areas of exploration were workforce readiness skill development in the academic and non-academic environments as well as transference of skills between environments.

The study of the phenomenon was conducted at a Midwest suburban high with eleventh grade students. A smaller sample of participants was purposely selected from the larger population for semi-structured face-to-face interviews based on three criteria. The criteria included employment status, identification of employer desired skills, and self-reported observation of skill development in an academic environment. An identification number was assigned to each interview to protect the identity of the

participant. The researcher reviewed each transcript in tandem with the audio recording for accuracy. With the assistance of NVivo 10, qualitative analysis software, the data were open-coded, analyzed through axial coding, and selectively sorted by themes until patterns and a theory emerged.

Definition of Terms

21st Century skills. 21st Century Skills are the skills students need to be prepared to enter the workforce, which included “Core Subjects (the 3Rs); Learning and Innovation skills (the 4Cs); Information, Media and Technology skills; as well as Life and Career skills” (P21, 2009).

Applied skills. Applied skills enabled the synthesis and application of basic foundational knowledge within the daily operations of the workforce (Casner-Lotto & Barrington, 2006).

Baby boomer. Classification of a person who was born roughly between the years 1946 and 1964 who shared similar values, beliefs and work ethic with others of a similar age (Jenkins, 2008).

Breadth of skill. The range of understanding, scope of practice, and variety of experiences with relation to skill attributes (Merriam-Webster, 2014).

Career readiness. Career readiness was the acquisition of skills in the areas of core academics, technical knowledge, and skills in addition to personal qualities and professional attributes. (ACTE, n.d.)

College readiness. College readiness was the acquisition of “knowledge, skills, and behaviors necessary to successfully complete a college course without remediation” (Mijares, 2007).

Communication. “The act or process of using word, sounds, signs or behaviors to express or change information or to express ideas, thoughts, feelings, etc., to someone else” (Merriam-Webster, 2014).

Conceptual age. A projected period of time in which creativity, innovation, and conceptual thinking were the drivers of economic growth as well as the main source of capitalism (Pink, 2006).

Contextual learning. The process of constructing relationships between abstract ideas and practical application given information and experience in relation to the context in which something happens (Casner-Lotto & Barrington, 2006; COD, 2012).

Core curriculum. Core content referred to the curriculum in the subject areas of Mathematics, English, Science, Social Studies, and World Language.

Cross-curriculum integration. Cross curriculum integration was the use of teaching methods, such as cross-departmental collaboration, that connect instructional concepts and skills across traditional subject area boundaries (Lake, 1994).

Depth of skill. The complexity, degree of intensity, and thoroughness of usage in relation to the range of skill attributes (Merriam-Webster, 2014).

Education reform. Education reform was the improvement of educational opportunities through planned changes that connected policy and practice (Castellano, Stringfield, & Stone, 2003).

Generation X. Classification of a person born roughly between 1965 and 1980 that shared similar values, beliefs and work ethic with others of a similar age (Jenkins, 2008).

Industrial age. A period of time in which industrial development, manufacturing, and extraction of natural resources were the drivers of economic growth and the main sources of capitalism (Gilbert, 2005).

Interpersonal skills. Skills used in everyday interaction with other people that include verbal and non-verbal communication, listening, negotiation, problem solving, decision-making, teamwork, and assertiveness (<http://www.skillsyouneed.com/interpersonal-skills.html>).

Knowledge. A system of networks that processed and augmented intellectual capital to enhance and produce new knowledge (Gilbert, 2005).

Knowledge age. A period of time in which tangible assets were replaced by knowledge and ideas as the driver of economic growth and the main source of capitalism (Gilbert, 2005).

Millennial. Classification of a person born after 1980 that shared similar values, beliefs, and work ethic with others of a similar age (Jenkins, 2008).

Modular scheduling. A flexible scheduling system where the school day was broken into 40, 60, or 80 minute modules to accommodate a variety of instructional settings that include large groups, small groups, labs and independent study.

One-to-one. In the context of this study one-to-one, referred to the condition that every student was in possession of a school owned laptop computer twenty-four hours a day from mid-August to the end of May.

Pedagogy. Pedagogy was the art and/or science associated with instructional methods. (Oxford, 2013).

Problem solving. “The process of finding solutions to difficult or complex issues” (Oxford, 2014).

Self-management skills. Skills used to manage oneself in everyday activities that included self-control, discipline, initiation, motivation, accountability, resourcefulness, and time-management (U.S. Department of Labor, 2000).

Teamwork. “Work done by several associates with each doing a part, but all subordinating personal prominence to the efficiency of the whole” (Merriam-Webster, 2014).

Assumptions

Based on review of the literature and experience in the education industry, the researcher’s assumptions associated with the study were the following: (a) all students were taught skills in problem solving, communication, and teamwork; (b) there was a relationship between awareness, development and transference of 21st Century skills relative to the impact of secondary education involvement; and (c) secondary schools that developed 21st Century skills through contextualized learning, higher levels of learning behaviors, and differentiated pedagogy produced students who demonstrated a higher degree of preparedness upon entry into the workforce.

The assumptions associated with the study in relation to the participants were the following: all students (a) had previously engaged in equivalent district-approved curriculum, instruction, and assessments; (b) had the same accessibility to resources and academic support; (c) had previous exposure to the basic concepts and attributes associated with the development of 21st Century skills, specifically problem solving, communication, and teamwork; (d) had unlimited access to a laptop computer through

the One-to-One laptop program; and (e) participated in a modular scheduling system.

The study also assumed that since the One-to-One program was in its tenth year of existence, computers were an integral part of the courses taught in the high school where the study was conducted.

Delimitations

The study was delimited to students in grade 11 who attended the same suburban high school in the Midwest, which used a modular scheduling system. A second delimiting factor was that students were required to demonstrate proficiency in problem solving, written communication, and teamwork in various classes as part of the graduation requirements. Thirdly, the organizational culture of the research site was based in transformational leadership rather than transactional, which was the predominant leadership style during the Industrial Age when the education industry was established. Furthermore, students who transferred in or out of the institution where the study was conducted during their high school tenure were excluded from participation in the study due to inconsistency in experiences, expectations, and philosophy between educational institutions. These factors could limit the ability of the results to be generalized to the larger school population as well as to other educational institutions.

Limitations

The phenomena study was limited to the participants' self-reported perceptions of their experiences with skill development within the secondary institution. The study relied upon the integrity and honesty of the voluntary participants' disclosure of information. Secondly, using the results from a single suburban high school that had a predominate college preparatory focused curriculum may have skewed the study and limited the

ability to generalize the finding to other settings. At the site where the study was conducted, on average, 81 percent of the graduating class entered a post-secondary institution the following fall semester. Other limitations that were not factored into the study included an individual's socioeconomic status, intellectual capacity, and source of motivation, which were other aspects related to performance and productivity levels in the classroom and workforce that may have affected employers' perception regarding employee preparedness (Fletcher, 2012; Salmela-Aro, 2012).

Significance of the Study

The study was significant in that there was a lack of literature that addressed workforce readiness skill development as a single entity at the secondary level of education and also investigated the interdependence between economy, politics, and PK-12 mandatory education in relation to the workforce readiness gap. Career readiness was generally grouped with college readiness (Perry & Wallace, 2012). Furthermore, much of the literature addressed attainment of career readiness skills at the post-secondary level of education or once employees entered the workforce (AMA, 2010; Casner-Lotto & Barrington, 2006). The literature was rich with strategies for resolution of the issue that were upper-level managerial types of interventions within business and industry rather than addressing the issue at the front-line root level with intervention strategies in the field at the PK-12 level of education (AMA, 2010). Additionally, the literature indicated that early intervention was necessary to implement a solution and correct the problem (Bailey & Merritt, 1997; Mourshed et al., 2012; Warner et al., 2011). The basic education students have access to as part of the public education system was referenced as a place to implement change to improve the level of worker preparedness (Bailey &

Merritt, 1997; Casner-Lotto & Barrington, 2006). Thus, the implementation of interventions within the constructs of PK-12 education had the potential to be the most effective for the overall workforce because it impacted the greatest number of people due to compulsory attendance laws.

As each grade-level builds upon previously learned knowledge and skills, an educational institution used continuous transformation processing in the preparation of students to enter post-secondary education and/or the workforce (Hatch & Cunliffe, 2006). The study was unique in that it was based in education, but approached the problem from the perspective of a technical system that transformed students into an output known as human capital (Hatch & Cunliffe, 2006; Waks, 1976). Additionally, the study approached the problem from the perspective that the business industry determined the quality and competence of the finished output of the education industry, known as human capital, upon its entry into the workforce. Based on the reports that lament the inadequately prepared employee upon entry into the workforce, it seemed that there was a breakdown in the technical system's processing (AMA, 25010; Casner-Lotto & Barrington, 2006; US Department of Education, 1983).

The study also contributed to the participating school district's continuous data collection in relation to well-informed practice, decision-making on policy, budget, and strategic plans related to career education and workforce readiness. The school district was able to use the information to modify and improve its programming to fulfill its mission. The study also informed educators at large of the need and benefit in the development of workforce readiness skills, as there were an increasing number of

students who entered the workforce without the necessary skills to attain and sustain gainful employment throughout their working life (US Department of Labor, 2012).

Summary

The societal belief that students must go to college, plus the absence of sensational statistical data with regard to the lack of employee competence upon entry into the workforce hindered change on a grand scale (Mourshed et al., 2012; Rogers, 2003; Symonds et al., 2011). The disparity that existed between business and education in relation to workforce preparation and readiness, in terms of concern, has not reached critical mass to incite action from the general public (Rogers, 2003). Educational institutions were cautious and maintained traditional methods or implemented minor variation of curriculum delivery because the outcomes were predictable, which was necessary due to legislative mandates such as NCLB and CCSS. However, times have changed. The education industry and policymakers were slow to evolve in understanding the needs of stakeholders and developing alternatives to satisfy those demands (ACT, 2011; McLester & McIntire, 2006). The study evaluated the degree and source of workforce readiness skills development and transference between environments at the secondary level of education.

Since the education industry was considered to be primarily responsible for the transformation of students into competent and productive future employees, early intervention was necessary to implement a solution that corrected the problem (Bailey & Merritt, 1997; Hatch & Cunliffe, 2006; Warner et al., 2011). The report, *Are They Really Ready to Work*, placed primary responsibility for attainment of basic knowledge and applied skills on educational institutions and the future employees (Casner-Lotto, &

Barrington, 2006). However, it also included parents as another source for attainment of workforce readiness skills such as work ethic and importance of education (Casner-Lotto, & Barrington, 2006). Despite multiple initiatives spawned by legislation, standards, and other workforce preparation alternatives, not all students have taken advantage of the opportunity to enroll in career and technical education elective courses. In order for change to be most effective, aggressive and analytical engagement of the status quo that stemmed from inside the education industry at the classroom level rather than imposed from the top by regulating agencies through industry standards was required (McGrath, 2010). The constructivist grounded theory study addressed the long-standing concerns of business and industry with regard to entry-level employee competence from inside a secondary educational institution. It contributed to the research related to closing the gap in workforce readiness within the constructs of compulsory PK-12 education through increased awareness, application, relevance, and transference of workforce readiness skills expected by employers.

Organization of Study

Chapter 2 of the study reviewed the professional literature related to the influences of economic development, employer perceptions and expectations, as well as political powers in relation to school reform and educational best practices in the development of workforce readiness skills. Chapter 3 described the research design, methodology, participants, instrumentation, role of the researcher, verification, plus the procedures used to collect and analyze data. Chapter 4 presented an analysis of the data and results. Chapter 5 contained the summary of the study and findings, as well as surprises, implications, and recommendations for future studies.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The United States encountered many challenges in relation to the disconnect that existed between what the workforce wanted in terms of its' future employees and how the educational institution prepared them. The study highlighted the fact that workforce readiness was comprised of three integrated disciplines, which were disaggregated into the economic system's need for competent employees, the efforts of political system to bridge the workforce readiness gap, and the education system's preparation of future workers (Meeder, 2011; Mourshed et al., 2012). Each perspective considered "in terms of deficits and excess" (Bardach, 2009, p.1), shed a different concern and possible solution to the same problem (Mourshed et al., 2012). From an economic perspective, the US competitiveness in the global market was impacted by the lack of qualified workers in conjunction with unemployment rates (Casner-Lotto & Barrington, 2006; McLester & McIntire, 2006; US Department of Labor, 2013). In the case of the business industry's perspective, there were not enough skilled workers to fill open positions (AMA, 2010; Warner et al., 2011). Business long ago recognized the fact that the education industry was an integral part of workforce readiness (Casner-Lotto & Barrington, 2006; McLester & McIntire, 2006; Baker, 2013). Thus, their focus in the phenomenon was that of a technical system in which processing of raw materials produced a quality product that resulted in the recruitment of qualified employees (Hatch & Cunliffe, 2006; Mourshed et al., 2012). From an educational perspective, there were multiple demands from multiple stakeholders with regard to the quality of the educational processing system and the purpose for the final product known as human capital, which

ultimately impacted funding (DuFour, DuFour , Eaker, 2008; Harvey, Cambron-McCabe, Cunningham, & Koff, 2013). Thus, with regard to the phenomenon their emphasis was the educational development of students through quality curriculum and instruction (Mourshed et al., 2012). While from the worker perspective, there seemed to be market failure with respect to formal education in that it was “hard for consumers to know the true quality of the good or service they were acquiring” (Bardach, 2009, p. 3; Mourshed et al., 2012).

The economy of the Industrial Age was production focused which required employees to follow orders and do routine type of tasks. The current Knowledge Age economy was information and service focused, which requires an applied set of skill for a variety of tasks. Additionally, those who were in leadership roles were from the generation of Baby Boomers; while those entering the workforce were from the Millennial generation. These two generations had different life experiences that shaped their work values and ideas about the skills required to be successful in the workforce. Both of these economy related factors contribute to the perception of a gap in workforce readiness.

The US economy was evolving, however the educational system was slow to respond to these changes (McGrath, 2012; Symonds et al., 2011). Case in point was the Russian launch of Sputnik, which resulted in politicians calling for school reform, especially in the areas of math and science (DuFour et al, 2008; McLester & McIntire, 2006; Harvey et al., 2013). As a result, the educational systems became focused on a strong academic core curriculum, especially in the areas of science and mathematics. Additionally, there was a shift in the purpose of education from preparation of students

for entry into the workforce to post-secondary education (Fletcher, 2012; Symonds et al., 2011). In 1983, the *NAR* report scrutinized and blamed schools for the poor economy and inadequately prepared workers. In 2002, school reform was again a political concern when NCLB was signed into law with the caveat that funding would be curtailed for schools that do not meet the expectations for closing the achievement gap (Cambron-McCabe, McCarthy, & Eckes, 2014; Harvey et al., 2013). Furthermore, the Obama Administration identified the national dropout crisis as an “economic imperative” (Perry & Wallace, 2012, p. 34) issue that must be addressed for the US to be competitive in a global economy. It seemed as though business and politicians were at cross-purposes in their desired outcome for the product of the educational system. School reform was a topic of discussion that has not yielded the perfect solution to satisfy the diverse needs of stakeholders (Harvey et al., 2013).

Meanwhile, the education industry was considered an “institution with widely understood rules, norms, or strategies that create incentives for behavior in repetition” (Polski & Ostrom, 1999, p. 3). These were important factors to consider with relation to this topic as education was an institution and there were definite norms and beliefs within society that schools should prepare students. But, the question was . . . prepare them for what? Depending upon the state, business, community, parents, or students the answers included college, the world of work, personal/social concerns, all of the above or specific combinations. Additionally, there were multiple factors, such as less than rigorous and engaging curriculum, traditional teaching methods, plus coercive pressure to maintain educational norms, environmental influences, as well as legislative mandates that impacted the degree of workforce readiness.

Economic

Over the last three decades, there have been multiple articles, research studies, and reports that lamented the lack of workforce readiness skills in both high school and college graduates upon entry into the workforce (AMA, 2010; Casner-Lotto & Barrington, 2006; Warner et al., 2011). Business, more so than education, was cognizant of the fact that graduates did not possess the academic, professional, and technical proficiency that were required to keep the United States actively engaged and an influential player in the global marketplace (Mourshed et al., 2012; McLester & McIntire, 2006). To accurately diagnosis the issue, it was necessary to define exactly what business and industry considered a workforce ready employee. The components of economic development and diversity of human capital influenced employer expectations and their perception of workforce readiness of entry-level employees. Additionally, the progression of economic development, which required modification of the desired skill set must also be considered in relation to the phenomenon of workforce readiness.

Economic Development

Industrial age. The sources of economic growth during the Industrial Age were related to tangible resources such as land, labor, money and transition from hand production to machine production (Gilbert, 2005). The Industrial Age economy of yester year was production focused, which required from employees compliance and task repetition (NCEE, 2007; Perry & Wallace, 2012). Thus, the employees of the Industrial Age required only general conceptual capabilities. Employees were strictly managed much like machines through a transactional leadership style. The labor market needs of the Industrial Age gave birth to the traditional education model (Perry & Wallace, 2012).

Schools were designed similar to technological systems where the “efficiency of the system takes precedence over the needs of the individual” (Gilbert, 2005, p. 21). The one-size fits all system delivered general knowledge to age-related cohorts in the same order at the same pace. Students were taught to read, write, and do mathematics, plus other topics relevant to everyday life (Baker, 2013). Additionally, schools taught social skills, discipline, and respect for authority. The life cycle within the Industrial Age economy consisted of school, work, and retirement (Baker, 2013).

Knowledge age. The sources of economic growth in the Knowledge Age were ideas and information (Gilbert, 2005). The current Knowledge Age economy was based heavily in services and information, which required from employees a more intellectually advanced skill set (Perry & Wallace, 2012). “A new mindset was required, one that took into account the new meaning of knowledge, contexts, and purposes for learning this knowledge” (Gilbert, 2005, p. 34). Fundamental knowledge was still important, but the employee also needed to be able to assimilate, apply, adapt, and innovate new information into something that was productive and useful (AMA, 2010). Employees were expected to continually learn, seek out information, utilize analytical skills, and work autonomously as well as collaboratively. Additionally, employees were required to utilize systems thinking in order to understand the larger organizational system rather than just their own compartmentalized system and how their actions influenced other organizational systems. The life cycle within the Knowledge Age economy was an era of lifelong learning where the employee constantly reinvented their skill set (Baker, 2013).

Conceptual age. The source of economic growth in the arriving Conceptual Age will require a skill set that encompasses a strong foundational knowledge in conjunction

with creativity and global awareness (Casner-Lotto & Barrington, 2006; Pink, 2006). The infusion of creative resources is expected to enhance product design as well as creation of new products and services, in addition to enrich organizational management and strategic planning. Automation, outsourcing, and over abundance of mass production of goods in the market place will be replaced with demand for unique and innovative goods and services that will require a modified set of intellectual skill (NCEE, 2007). Educationally, employees will need to be proficient in basic literacy, creativity, critical thinking, analysis, synthesis, teamwork, innovation, and globalization (Casner-Lotto & Barrington, 2006; Zhao, 2009).

Human Capital Diversity

The multigenerational diversity within the workforce was another reason for the perceived gap in workforce readiness. “It is seemingly axiomatic that every generation expresses concerns about the qualities of the next generation” (Trzesniewski & Donellean, 2010, p. 58). The three most predominant generations in the workforce were Baby Boomers, Generation X, and Millennial. Each generation had different communication styles, values, and work ethics as well as responded differently to motivational and managerial strategies. Thus, the diverse generational needs, values, and beliefs within an organization’s human capital influenced the perception of workforce readiness.

Baby boomer. Born between 1945 and 1964, the Baby Boomer generation proclaimed a “higher priority for work over personal life” (Jenkins, 2008, p. 19). They comprised 44 percent of the workforce (US Bureau of Labor Statistics, 2012) and “hold much of the power and control...and will continue to wield influence on the workplace

for at least another two decades” (Murphy, 2007, p. 10). Approximately, 63 percent of Baby Boomers planned to work at least part time in retirement (Murphy, 2007). Their views were shaped by such key historical events as the civil rights movement, Vietnam War, Woodstock, and inflation (Jenkins, 2008). The technology that significantly influenced their development was the television. Within the workforce, their experience and knowledge were considered advantages, while their process orientation and dislike for conflict were considered disadvantages. While Baby Boomers preferred managers with a caring, democratic, and consensual leadership style, they had a love/hate view of authority. Their work ethic was described as driven and they were motivated by involvement and making a difference. Baby Boomers preferred interpersonal communication methods that were relationally connected.

Generation X. Born between 1965 and 1980, Generation X was self-reliant and “vocally questioned authority figures and were responsible for creating the work/life balance concept” (Jenkins, 2008, p. 20). As a result, they were generally perceived by Baby Boomers as not dedicated workers. Generation X comprised 33 percent of the workforce (US Bureau of Labor Statistics, 2012) and was poised to move into leadership positions. The key historical events that shaped their views were the global energy crisis, corporate layoffs, the Challenger disaster, and the fall of the Berlin Wall (Jenkins, 2008). The technological advancement that significantly influenced their development was the personal computer. In the workforce, their adaptability, independence, and willingness to challenge the system were advantageous, while their skepticism and distrust of authority were considered disadvantages. Generation X was unimpressed with authority; yet, preferred managers who were competent, direct, flexible, and results-oriented. Their

work ethic was described as balanced, which paralleled well with flexibility to get things done on their own schedule as a motivation strategy. Generation X preferred electronic communication such as email or voicemail that were direct and to the point.

Millennial. Born after 1980, the Millennial were technology savvy, family centered, civic minded, team and achievement oriented, as well as possessed a global centric perspective. Their comfort with teamwork was developed as children due to the fact that they were highly involved in activities while their Baby Boomer parents worked (Jenkins, 2008). The Millennial generation was considered the most educated generation of workers. They comprised 15 percent of the workforce (US Bureau of Labor Statistics, 2012). The bombing of the Federal building in Oklahoma City, Columbine High School shooting, World Trade Center attack, and the Enron corporate scandal were the key historical events that shaped their views (Jenkins, 2008). Their development was significantly influenced by the technological advancements of the Internet such as social media. The advantages they brought to the workforce were their collective action and technical literacy. Meanwhile, their inexperience required managerial structure and supervision, which were considered disadvantages. Millennial had a relaxed and polite view of authority and preferred managers that were educated, achievement oriented, motivational, and used a coaching style of leadership. Their work ethic was described as ambitious and they were best motivated when their work was connected to their personal and professional goals. Millennials preferred instantaneous electronic communication, such as text messages and blogs, that was positive and tied to personal or team goals.

The multigenerational dynamic extends into the classroom as well. Upon investigation into solutions to close the gap in workforce readiness, a place to start was

the classroom; where Baby Boomers employed Industrial Age educational structure and strategies to teach the future workforce. To achieve real strategic advantage in closing the gap, the diversity in human capital must be embraced to create a flexible environment that engaged young people (Jenkins, 2008). Thus, it required focus on commonalities and respect for the diverse perspectives each generation imparted into the workplace. All generations viewed work as a source of personal fulfillment and satisfaction, plus each wanted a flexible environment where they felt appreciated, valued, and were recognized (Jenkins, 2008). To be prepared for the workforce, students and employers needed to develop awareness and appreciation of generational differences as well as interpersonal skills to bridge the gap.

Employer Expectations

A shift in the US economy from a production-orientation to an information and service orientation naturally caused a shift in the entry-level skills required by employers. In the past, employees performed repetitive tasks that only required a basic education, however in the current economy employees were required to seek out information to solve problems (Perry & Wallace, 2012). A 2005 survey highlighted the fact that 39 percent of high school students were inadequately prepared for entry-level positions upon graduation (Rothman, 2012). Additionally, the American Management Association and *Are They Ready to Work* research studies sponsored by employers equated level of education with level of skill development, which did not accurately assess an individual's workforce capabilities (ACT, 2011; AMA, 2010; Casner-Lotto & Barrington, 2006). Workforce readiness included technical knowledge and professional qualities in addition to academic ability (ACTE, n.d.).

Over the last five years, several surveys sponsored by different organizations determined the skills in which entry-level employees are deficient (AMA, 2011; Casner-Lotto & Barrington, 2006; P21, 2008). The 21st Century Survey (2008), conducted by the Partnership for 21st Skills, examined the perspective of the employer in regards to the desired skills for entry-level employees. The results of the survey identified professionalism, teamwork, oral communication skills, reading comprehension, ethics, and social responsibility. While the National Association of Colleges and Employers (NACE) Research Report: Job Outlook 2010 (2009) found that the top five skills desired were communication, analytical, teamwork, technical, and a strong work ethic. The American Management Association (AMA), which had a respected reputation in the business industry for professional development conducted a survey with over 2,000 managers and executives in 2010. The results indicated that in addition to the basic skills, which were identified as reading, writing, and arithmetic; employers desired entry-level employees who possessed applied skills in critical thinking/problem solving, communication, collaboration, and creativity/innovation (P21, 2009). Furthermore, the *Are They Really Ready to Work* study found that high school graduates were rated as deficient in basic knowledge and applied skills (Casner-Lotto & Barrington, 2006). Among these four recent surveys, the commonalities were communication, teamwork, and problem solving. In addition, three out of the four surveys indicated a desire for work ethic.

The economy was one dimension that contributed to the perception of an inadequately prepared workforce. Economic development, an intergenerational workforce, and lack of uniformity in employer expectations were just some of the

elements that influenced the perceived degree of readiness upon entry into the workforce. Regardless of the influences, “organizational leaders must recognize that they operate in constantly shifting environments” (Johnson, 2012, p. 345) and, as such, they must evolve and adapt in congruence with economic development and generational qualities.

Political

In 1965, President Lyndon B. Johnson enacted the Elementary and Secondary Education Act (ESEA), the most influential legislation to impact the education industry. ESEA established high standards and accountability for PK-12 educational institutions while prohibiting the establishment of national curriculum. Its intent was to close the achievement gap in reading, writing, and mathematics through equal access to high quality education. ESEA has been reauthorized with modifications multiple times since its inception. However, some of the modifications to ESEA, such as those associated with NCLB, appear to be at cross-purposes with workforce readiness. NCLB compelled PK-12 educational institutions to focus on improving basic knowledge skills, which was measured by achievement test scores. The threat of reduced funding associated with Adequate Yearly Progress (AYP) prompted some schools to choose to teach to the test with repetition of factual knowledge that improved achievement scores. Meanwhile, the business industry preferred an educational emphasis that also included applied skills that encouraged creativity and innovation as well as developed critical thinking and problem solving skills, which were necessary for life-long learning and the future workforce (P21, 2009).

Landmark Event

The *NAR* Report by the National Commission on Excellence in Education insinuated that the education system was responsible for the stagnant economy in the 1970's (DuFour et al., 2008; Symonds et al., 2011). However, Harris, Handel and Mishel (2004) presented an opposing viewpoint that included supporting arguments and evidence intended as a catalyst to incite others to question the claims of the well-known report. It directly challenged the report findings and stated that it was unclear how the NAR committee reached its conclusions (DuFour et al. 2008; Harris et al., 2004). There were multiple discrepancies and exaggerations that lead to the theory that education was only one factor that indirectly impacted the economy. A clear understanding of the impact of education on the economy was difficult to discern due to the multiple levels of abstraction associated with both concepts (DuFour et al., 2008; Gerring, 2012). Harris, Handel, and Mishel (2004) cited a worker's cognitive ability was only one factor that affected productivity. In kind, productivity was only one factor that affected economic competitiveness and prosperity, thus education's impact on the economy was indirect and minuscule (Harris et al., 2004). In addition, Harris, Handel, and Mishel synthesized that the diverse attributes of human capital education, job-skill mismatch, and economic competitiveness "revolved around the central theme" (Gerring, 2012, p. 143), which were assumptions presented in the *NAR* report. The use of temporal typology between employees in the workforce and their year of graduation established inconsistencies in the claims of inadequately prepared workers. Additionally, a review of the National Adult Literacy Test Scores in 1992 revealed trends in basic skills attainment based on age, level of education, and workforce status that disputed claims of job-skill mismatch. The

evidence presented by the Harris, Handel and Mishel (2004) was contradictory to the *NAR* report and suggested that today's workforce was more skilled than in the past and equipped with the skills to compete with workers in other countries.

School Reform

Multiple articles have capitalized on the concern expressed for the American economy by the report, *A Nation at Risk: The Imperative for Educational Reform* (Mourshed et al., 2012; NECC, 2007; US Department of Education, 1983). Furthermore, *The Forgotten Half* Report increased the awareness of policymakers to the fact that schools were failing to prepare all students for high skill, high wage jobs (Perry & Wallace, 2012). Thus, a major concern for policy makers as well as society was and continued to be the issue of school reform (DuFour et al., 2008; McGrath, 2010).

Through the years, ESEA has been reauthorized, which initiated modifications to the educational system that were motivated by federal and state funding. The "excellence movement . . . called for intensification of services" (DuFour et al., 2008, p. 34). While the "restructuring movement" (DuFour et al., 2008, p. 35), established Goals 2000 and delegated decisions regarding improvement strategies to local schools. NCLB, the most commonly known school reform legislation, required each state to ensure that all students were proficient, as determined by assessments, in reading, language arts, mathematics, and science by 2014 (Cambron-McCabe, McCarthy, & Eckes, 2014; Harvey et al., 2013). Another prominent school reform effort that swept the nation was the Common Core State Standards, which were initiated by the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO) to provide consistent academic standards of knowledge and skills for all students regardless of geographic location. The

most recent school reform effort, Race To The Top (RTTT), utilized competitive grants that were intended to encourage education innovation that included the elements of adoption of standards and assessments, implementation of data systems, and revived low performing schools.

Assessment. Assessments were key indicators of performance measurements within the education industry that evaluated skills on an international, national, and local level. The 1985 report, *Investing in Our Children: Business and Public Schools* (COED), recommended as solutions to the issue of workforce readiness the establishment of national standards and an assessment to measure performance and competency of skills (Dormer, 1992). A collaborative partnership between education and industry that delineated skills and essential curriculum necessary for students to be adequately prepared for the workforce “contributed something novel” (Gerring, 2012, p. 28) to the educational reform efforts (Bailey & Merritt, 1997). This was an innovative shift in pedagogy and organization that broke down the traditional duality and opened lines of communication between educators and employers. The collaborative effort to establish industry standards as well as modify and align curriculum with integrated academics supported the school reform efforts of The New Standards Project (NSP), which confronted the disconnect that existed between education and the workforce (Albrecht, 2011; Bailey & Merritt, 1997). In the late 1980’s ACT introduced the Work Keys assessment that measured performance and competency in career readiness skills in the areas of reading, math, and locating information (ACT, 2010).

The National Association of State Directors of Career and Technical Education (NASDCTE) took the next step in the assessment process with the proposal of a national

clearinghouse that would regularly and consistently calibrate technical skills required for a specific job. The clearinghouse would measure an individual's technical skill proficiency as well as store their results, which could be presented to employers.

However, the group did not develop the idea because of their inability to agree on which skills were universally important and the expense of the endeavor (DeWitt, 2012). In 2006, ACT introduced the National Career Readiness Certificate and launched a clearinghouse for career readiness skills (ACT, 2012; Mourshed et al., 2012). Alas, ACT's nationwide credential initiative has not achieved mainstream acceptance, as only 2500 employers require the certificate as a condition for employment (Ausman, 2008).

Although the results of Bailey and Merritt's research regarding the development of skill standards as a strategy for educational reform were indeterminate, the idea has gained support in the last few years through the government's career cluster initiative (1997). Additionally, the assessment resolution had the support of education professionals who believed that assessment was the way to increase the level of concern, importance, and values of an issue (Rothman, 2012). However, an obstacle for the standards, assessment, and clearinghouse resolution for bridging the gap in workforce development and school reform was that students already feel over evaluated with mandatory state testing for NCLB. Thus, some students intentionally do not perform to the best of their ability. In 2014, ACT launched Aspire, an online assessment that was based on College and Career Readiness standards and aligned with Common Core State Standards, which was proposed to alleviate over assessment (ACT, 2013). Another possible solution that has recently gained attention is Mozilla's Open Badges initiative, which provided online credentialing for skills learned outside of the formal educational

setting (Mourshed et al., 2012). Since badges were a relatively new concept, the value of these credentials from a business perspective was unclear.

Common core. It has been almost thirty years since the *Investing in Our Children: Business and Public Schools* (COED, 1985) report was produced and still the same concerns existed despite the recommendations of the various studies, reports, and solutions that have been implemented (Symonds et al., 2011). In 1996, as part of educational reform, corporate leaders and the nation's governors established a joint organization known as Achieve (Bassett, 2005). The expressed purpose of Achieve was to examine curriculum standards, improve graduation requirements and assessments, as well as create accountability systems and collect longitudinal data. Furthermore, the NGA and the CCSSO initiated the development of the Common Core State Standards (CCSS) to establish and align state curricula in relation to core knowledge and skill competencies for students as they exited high school (Rothman, 2012). At the invitation of CCSSO, the organizations of ACT, Achieve, and College Board applied their expertise in college and career readiness to draft the basic standards based on evidence from postsecondary institutions and the workplace (Rothman, 2012). In the development of CCSS, emphasis was placed on informational and explanatory writing as well as applying such math concepts as fractions, decimal, and calculating volume. Since the 2010 release of the Common Core State Standards in English and Math, 45 states adopted the standards (Meeder & Suddreth, 2012). A potential barrier to implementation of CCSS nationwide was the necessity of consistency in skill development, which required changes to classroom practices and additional training for teachers (Rotherham &

Willingham, 2009). Additionally, CCSS was in direct opposition to the original draft of ESEA in 1965 that prohibited the establishment of a national curriculum.

College and Career Readiness

Since the launch of Sputnik in 1957, the perception of education has transitioned from basic training in mathematics, reading, and writing to an expectation that includes every student will go to college (Harvey et al, 2013). Despite these expectations, schools tended to focus on college readiness and not workforce readiness (Symonds et al., 2011). The current buzz phrase in the education industry related to student achievement was college and career readiness (Perry & Wallace, 2012). College and career readiness tended to get combined, which implied similarity; however, these two concepts were distinctly different in their definition and end goals. College readiness as defined by College Board was “the knowledge, skills, and behaviors to complete a college course of study without remediation” (2013). While career readiness, as defined by the Career Readiness Partner Council, is a “sequence of rigorous coursework with challenging technical knowledge and skills plus self-awareness of talents, strengths, and soft skills” (2013).

Education was a critical experience that influenced an individual’s life trajectory; however, the expectation that every student attend college was an unrealistic goal (Perry & Wallace, 2012; Symonds et al., 2011). At the individual level, a student’s motivation, academic capabilities as well as the family’s financial situation were obstacles to post-secondary attendance (Fletcher, 2012). Data from the National Center for Higher Education Management System (NCHEMS) showed that in 2008, on average only 63 percent of high school graduates enrolled directly into college, while 25 percent of those

did not return to the post-secondary institution after the first year of college and 56 percent of those that remained completed a bachelor's degree within 6 years (NCHEMS, 2013; Symonds et al., 2011). Furthermore, in 2007 only 40 percent of 27 year olds in the United States earned an associate degree or higher (Symonds et al., 2011). Another factor to consider was that “today, about 59 percent of jobs require some postsecondary education” (Sewall, 2010; Symonds et al., 2011), which leaves 40 percent of the jobs that do not require a degree. In addition, the promised increased social status and income associated with earning a college degree does not always materialize (Fletcher, 2012; Mourshed et al., 2012; Perry & Wallace, 2012).

The policy solutions that resulted from the analysis of workforce readiness by a multitude of government and professional agencies was presented and occasionally implemented at the upper level of an organization (AMA, 2010; Casner-Lotto & Barrington, 2006; Symonds et al., 2011). However, only a few policies have trickled down through organizational hierarchy and engaged those on the front line to buy-in and execute the solutions whole-heartedly. Thus, it was necessary for high level policymakers to take steps that advocated for workforce readiness as was the case for the U. S. Chamber of Commerce – Center for Workforce Preparation and Quality Education whose mission was to put “progressive information on education reform initiatives into the hands of people who can make a difference at the state and local levels” (Dormer, 1992, p. 75).

Education

A 2009 report, *Defining a 21st Century Education* produced at the request of the Center for Public Education, defined how technology, demographic, political, and

economic trends impacted workforce readiness skills. The report indicated an imbalanced instructional approach, which called for more application of knowledge and skills as well as curriculum that encourage broad connections in cross context situations, plus assignments that demand complex thinking and elaborated communication (Jerald, 2009; McLester & McIntire, 2006). An alternative suggested by the report was to modify the school environment to mirror the work environment where there was acceptance and encouragement of “open ended curiosity, comfort with ‘no right answer,’ creativity, taking personal responsibility for identifying and solving problems” (Jerald, 2010, p. 70), which was in direct opposition of a traditional educational setting. In many high schools, there were derivatives programs such as career education courses and career academies; however, these programs do not engage the majority of students (Fletcher, 2012; Meeder, 2012).

Pedagogy

The issue may not be so much about what to teach, but rather how to teach. Sociocultural theory centered on how cultural beliefs and attitudes impacted instruction as well as the influence of adults and peers on individual learning (Herring 2011). In the current educational system, individual teachers were only part of the assembly line without regard for the utility of the final product (Hatch & Cunliffe, 2006). They do not always connect their role in student development to eventual employment opportunities (Mourshed et al., 2012). Thus, PK-12 school systems must break with tradition and “find a way to teach applied skills integrated with core academic subjects” (McLester & McIntire, 2006; Lake, 1994). The old methods needed to be modified to include exercises and experiences that produced proficiency in academic, technical, and

professional skills. One way to achieve this was through high-level collaboration between businesses and educational institutions (Pawlowski, 2012; Symonds et al., 2011).

Partnership with business was a break with traditional pedagogy that was underutilized (Symonds et al., 2011). The school-business relationship should extend beyond financial contributions, job shadows, and tours to include such possibilities as employer mentors, direct learning opportunities through authentic internships for students and teachers, curriculum collaboration, and shared teaching experiences (Bray, 2011; Casner-Lotto & Barrington, 2006). An example of a business partnerships best practice was the sySTEM Now Conference that promoted science, technology, engineering, and mathematics through student competitions (Engeln, 2003). An advisory committee was another way to engage and solicit the contributions and expertise of education and business professionals, as well as include parents and students, to discuss new industry standards and innovation plus best methods to develop workforce ready students.

Another activity that was frequently underdeveloped was the alternative solution of work-based learning such as industry related challenge based learning projects and internships (Symonds et al., 2011). Many internship programs required revision into authentic experiences for skill development rather than free or low cost menial labor. An executive internship program in New York City was an example of a best practice that allows high school juniors and/or seniors to take a one semester sabbatical from the traditional academic setting to become special assistants to city officials (Hirsch, 1973). Four days a week the internship experience had the student engaged in actual policy analysis and solving real issues the city was facing rather than simple entry-level tasks.

A potential obstacle for the solution of authentic internships was that the number of students quickly exceeded the number of internship sites and partners.

Contextualized Learning

In a meta-analysis of program initiatives that integrated career education with core academics, Castellano, Stringfield, and Stone (2003) clearly stated that the topic of school reform through Career and Technical Education (CTE) was “under-researched” (2003, p. 231). A key attribute of CTE was contextualized learning, which was defined as the establishment of an association between content and application through hands on experiences (CORD, 2012). Bardach’s (2009) generic strategies of complementary and multiple functions for social improvement were the basis for the contextualized learning alternative due to the fact that in most schools career and technical education courses and core academics exist within the same facility. Currently there were multiple practices that achieve curriculum integration and contextualized learning. The first of which was through supplemental curriculum such as Classworks, which included comprehensive evaluation assessments based on CCSS standards and aligned with ACT’s college and career readiness standards. Prepackaged curriculum such as Classworks enhanced traditional student learning through application and transference between content situations via extension activities. However, obstacles for this solution were the capabilities and the level of commitment on the part of the teacher, which inhibited its effectiveness.

Castellano et al. (2003) compared and contrasted additional best practices for curriculum integration. The programs evaluated integrated core academics and CTE through such initiatives as career academies, magnets, pathways, High Schools That

Work (HSTW), and Talent Development High School (TDHS) as well as generalizability to the larger student population. A significant number of these programs had limited generalizability due to constraints in student enrollment, staffing, or associated program cost.

Career and Technical Education

Traditionally, students who were not academically capable or who were at risk of dropping out of school were guided into vocational pathways, which resulted in increased retention and graduation rates (Castellano et al., 2003; Perry & Wallace, 2012). CTE was an academically rigorous program that provides real world, hands-on-learning, and application through programs of study via a series of elective courses. Furthermore, it was credited with increased career awareness, self-efficacy, concept connection, transference, and overall student engagement (Emeagwali, 2010; Fletcher, 2012). As a result, graduation rates for CTE concentrator students and postsecondary educational institution attendance rates were greater than non-CTE concentrator students (Emeagwali, 2010; NDE, 2011). Additionally, CTE students possessed the applied, professional, and technical skills that employer's desired. The three major obstacles that CTE must overcome were the stereotypes that the curriculum was not as rigorous as traditional core academics, it was only for students who do not plan to attend a postsecondary educational institution, as well as the lack of "quality assurance metrics" and quantitative longitudinal data. (Fletcher, 2012; McGrath, 2010; Perry & Wallace, 2012).

Despite a limited amount of research related to the impact of CTE on workforce readiness, the results were favorable in that there was "more equitably distributed learning among social classes of students" (Castellano et al., 2003, p. 261). There was

also consensus among a variety of third parties that included school reformers, policy makers, and researchers that CTE produced promising results for all students within the broader aspect of educational reform. Recent legislation called for increased rigor and greater accountability with career and technical competencies measurable through academic achievement, which forged only limited collaboration between the two domains of education and business. A compilation of the existing research on the integration of core academics and career and technical education spurred additional studies for further documentation. Through integration of curriculum in conjunction with contextualized learning in CTE and core academic courses could result in improved achievement for the majority of students as well as comprehensive school reform.

Conclusion

The demands of the impending Conceptual Age and a global economy coupled with decreased academic performance and increased per pupil costs created an opportunity for educational reform (NECC, 2007). The education industry was not reflective of the shift from a traditional industrial to a knowledge-based economy (McLester & McIntire, 2006). Nor did it seem to recognize that although college and career readiness share a common component in academic skills, workforce readiness also includes technical skills and professionalism (Bray, 2011). Even in the literature, career readiness frequently tended to be paired with college readiness; however, the content and level of skill development that was measured were not the same for both. For example, a 2006 survey of human resource officials, produced by the Conference Board indicated 80 percent of high school graduates were deficient in communication skills and 70 percent were lacking in personal accountability and effective work habits (Casner-Lotto &

Barrington, 2006). Research also indicated the need for routine skills were being reduced as a result of outsourcing while the importance of postsecondary education and the need for problem-solving and communication skills increased (Rothman, 2012). There was also concern regarding the lack of proficiency in basic academic skills. The American College Testing's (ACT) preliminary analysis of a pilot sample stated, "only one-third to one-half of 11th graders reached a college and career-ready level of achievement" (2011) in relation to the common core standards.

Research and comparison of best practices in relation to workforce readiness curriculum and development yielded several alternatives that include pedagogical shift, contextualized learning, business partnerships, student internships, and assessment of workforce readiness skills. Workforce readiness skills were closely associated with career and technical education courses, which provided application and context of academic skills as, "students do not realize the importance of possessing transferable skills" (Hodge & Lear, 2011, p. 29; Meeder, 2012). As a result of this connection, students were more engaged in coursework, experienced increased academic performance across the content, and preparedness for the workforce. In the end, the common theme was the integration of basic career readiness skills with core academic curriculum through a pedagogical shift and higher level learning behaviors for a sustained reform effort.

CHAPTER THREE: METHODOLOGY

Introduction

The chapter outlined the research questions, research design, participants, instrumentation, role of the researcher, data collection, data analysis, verification, and ethical considerations of the qualitative study that utilized grounded theory to better understand the phenomenon of underprepared employees upon entry into the workforce. The development of the qualitative grounded-theory research study was directed by a constructivist worldview within the theoretical lens of social science. The study had a transformational component due to its interdisciplinary connection between historical and cultural norms of the economic, political, and educational disciplines (Creswell & Plano-Clark, 2011). Additionally, educational reform and political legislation were parts of a larger system that contribute to the structural functionalism in the lack of qualified workers, which impacted the business industry and ultimately the economy (ACT, 2013; Creswell & Plano-Clark, 2011; Warner et al., 2011). The study was theory oriented in order to investigate the long-standing gap in employee preparedness upon entry into the workforce that affected all three disciplines.

The purpose of the qualitative study was to explore the phenomenological discrepancy that existed between the education and business industries' perspectives in relation to workforce preparation and readiness within the constructs of secondary education. The researcher sought to establish an understanding of the difference in perspectives of workforce readiness through the viewpoint of the participants in the developmental process. The study strived to gain data about awareness, application, and transference of 21st Century skills within the constructs of secondary education from

those whose experiences and recollections of educational preparation and entry into the workforce were fresh or still pending.

Due to the lack of literature associated with 21st Century skill development and transference with regard to secondary students, grounded theory was used to establish an emergent theory that explained the phenomenon (Creswell, 2007; Moustakas, 1994). By using grounded theory, the study offered an explanation about the concerns of the education and business industries in relation to the discrepancy in preparation of the future workforce. Additionally, the study was designed to increase the likelihood that both business and education industries would be able to relate, apply, and benefit from the results of the study.

Research Question

The overarching qualitative research question that guided this study was: what theory explains the discrepancy in workforce readiness of secondary students? The two sub-questions to the overarching research question were: (1) how does awareness of employer entry-level readiness expectations impact secondary students' development of 21st Century skills, specifically problem solving, communication, and teamwork; and (2) what actions at the secondary level of education engage students' in the development and transference of employer desired workforce readiness skills, specifically problem solving, communication, and teamwork? The educational institution where the study was conducted, previously administered a ten-question survey with regard to student awareness of career readiness factors. The data collected through the educational institution's quantitative survey influenced the development of the qualitative open-ended interview questions. The questions for the qualitative study were based on the

participants' knowledge, perspective, and experiences in relation to what skills employers' desired of future employees upon entry into the workforce. The open-ended questions for the interview were: (1) recall and describe a classroom lesson in which you learned problem-solving, communication, or teamwork; (2) recall and describe a time when you used the skill identified in question one outside the classroom; (3) reflect on factors and experiences that assisted in the transference between environments; (4) effectiveness of proficiencies; (5) what, if anything, was missing from their educational experience with regard to workforce preparation; and (6) insights or suggestion to employers in regards to the perceived gap in workforce readiness.

Research Design

Given a review of the literature coupled with the fact that secondary education is the last level of mandatory education, workforce readiness continued to be a growing concern for those who employed the final product of the PK-12 educational system. (AMA, 2010; Casner-Lotto & Barrington, 2006). The basis for this phenomenological study was to establish grounded theory in relation to the gap that existed between secondary education preparation and workforce readiness. Educators believed that students were taught problem solving, communication, and teamwork; however, not all students associates skill awareness, synthesis, and transference between academic disciplines and eventual application in the workforce. Thus, the phenomenological study was conducted with secondary students to examine the conditions in which optimal transference of workforce readiness skills occurred between environments (Creswell, 2007; Moustakas, 1994).

The study augmented and enhanced the data previously collected by the educational institution's survey with eleventh grade students. The survey assessed students' perceptual awareness and application of employer desired skills in the classroom. The educational institution's survey, in Appendix A, was referenced to determine the impact of personal experiences and outside influences on the degree of student awareness, application, and transference of problem solving, communication, and teamwork skills from the classroom to the workforce.

The institution's survey was used to purposefully select participants for qualitative interviews. Face-to-face semi-structured interviews were conducted to collect data on individual perspectives and experiences. The intent of the qualitative questions was to determine the conditions as well as how transference between the classroom and workforce occurred for the participants. Through constant comparative analysis the data were initial, axial, and selective coded until a theory emerged. Data from the qualitative interviews provided rich detail as to which type of activities, structure of lesson(s), pedagogical difference, and higher levels of learning behavior activities netted a change in awareness and transference. The results of the qualitative interviews were enriched with supplemental data from the educational institution's survey, which provided further insight to the phenomenon.

Participants

The systematic sample of participants in this study was narrowed from the entire student population at a Midwest suburban high school during the second semester of 2013-2014 school year to just those students enrolled in the eleventh grade. Students were in the 16-18 years of age range and had or were expected to enter the workforce at

some point in the next six years. The gender of participants was congruent with the enrollment patterns of the larger student population, where approximately 52% of the students enrolled were female and 48% were male. Additionally, the ethnicity of the participants also followed the pattern of the school enrollment where approximately 22% of the student body was classified as ethnic minority. The study excluded from participation those students who were incarcerated or hospitalized as well as those who received services for level one special education services and intensive English Language Learners (ELL). At the time of the study, the identified populations were excluded due to accessibility or comprehension limitations based on cognitive ability or language proficiency. Future research may focus on the adaptive needs of the identified populations with relation to development of workforce readiness skills.

A smaller sample of participants was purposely selected from the institution's larger sample for semi-structured face-to-face interviews based on three criteria. From the 368 students who completed the education institution's workforce readiness survey, only 44 students met the first criterion, which was identification of communication, teamwork, and problem solving as the skills most desired by employers. Of that 44, only 30 students met the second criterion of self-identified employment status as currently or have been in the past. Third, the participant responded positively to the question regarding observation of skill development in the classroom. The 18 identified participants were selected based on the participants' reported number of observations of skill development in the classroom. The semi-structured interviews were conducted with a smaller sample size because participants possessed a similar degree of expertise in the topic of study based on the educational institution's curriculum, graduation requirements,

and survey responses. The number of participants identified to be interviewed was 18, however the point of saturation was reached at 16 participants. The point of saturation with regard to communication and teamwork were reached with 10 participants, however more participants were interviewed in an attempt to reach saturation with regard to problem solving.

Instrumentation

There was little research on the perceived gap in workforce readiness with an adolescent population of participants. Therefore, the interview questions were developed, aligned, and field-tested by the researcher prior to administration with participants. The researcher created a matrix, Appendix B, during the development of questions to comprehensively enhance alignment with the overarching research question and sub-questions as well as increase trustworthiness and internal validity.

The semi-structured face-to-face qualitative interviews consisted of ten open-ended questions to identify where and how the connection between skill awareness/application in the classroom and relevance/transference to the workforce occurred. The open-ended questions asked participants to recall and describe classroom lessons in which they learned problem solving, communication, or teamwork.

Additionally, participants were asked to recall and describe a time when they used the same skill outside the classroom. Participants were also asked to reflect on factors that assisted in the transference of skills between environments. The series of questions was repeated with a different skill as selected by the participant. Furthermore, participants were asked about their educational preparation for the workforce and their insights into the perceived gap in workforce readiness.

To assess reliability, a field test was conducted with two students from the same high school that were selected based on twelfth grade standing and employment status. After the interview field test was administered, students were asked to verbally respond about their experience with the field test. The inquiry related to clarity of questions and any suggestions or comments for improvement. Based on feedback from the field test, two modifications were made to the research design and one modification to the instrument. The first modification that the field test participants recommended was the adjustment of interview question verbiage from that of a research perspective to be age and audience appropriate to increase comprehension on the part of participants. The second recommendation was that the definitions of communication, teamwork, and problem solving be provided prior to the interview to refresh the participant's awareness with skills. The last recommendation was that a list of the interview question be provided to participants prior to the interview to allow time for contemplation as well as reduce individual anxiety and apprehension.

Role of the Researcher

One aspect that was pertinent to this investigation was the fact that the researcher was a veteran educator with 23 years of experience in the education industry at the secondary level. The researcher was certified to teach secondary mathematics, business, and counseling by the state education department. Over the span of years, the researcher taught business and mathematics as well as a career development and readiness courses. The researcher taught an Applied Mathematics course, which was based on story problems with real world application and very little drill and practice. The researcher

noticed increased engagement, comprehension of concepts, and achievement among average ability and alternative students.

Another aspect that was pertinent to this investigation was the researcher's self-selected choice for professional growth and advocacy. For over 10 years, the researcher had promoted career education and readiness within a school district that had predominately focused on college preparation. Actions taken by the researcher to promote career education included presentations to the school board, creation of a career education brochure, and co-leadership of a revision project to create rigorous and meaningful sequences of courses. Additionally, the researcher attended multiple career education related conferences that included the National Career Pathways Network, National Career Clusters Institute, National Career Academy Coalition, and the US News STEM Solutions. The researcher participated in the Career Readiness Think Tank, Career Education Leadership Academy and the Pathways to Prosperity Symposium sponsored by the state department of education. Furthermore, the researcher was one of six committee members that revised the National Business Education Standards for career development in 2013.

The role of the researcher in this study was that of an insider who was employed in the education industry as well as an advocate for career education and readiness. The researcher observed the phenomenon of disconnection in conscious transference of skills between environments. Additionally, the researcher was an employee of the school district in which the study was conducted. To limit the influences of the researcher's perceptions and experiences as well as decrease bias in data collection, analysis, and report writing, the researcher kept an audit trail. The audit trail consisted of a journal

that explained personal actions, reactions, reflections, decisions, and insights into self and past knowledge related to the study. Additionally, the researcher discussed data analysis, emergent themes, and findings with an unbiased third party from the business industry.

Data Collection

Data collection for the qualitative study began the first week in May of 2014 and was completed by the first week in June of 2014. On April 24, 2014, identified sample participants were invited to participate in the study. Each participant was given a letter to take home to parents/guardians, which contained an explanation of the study along with two copies of the parent and participant permission forms. A copy of the letter of introduction can be found in Appendix C along with a copy of the permission forms for the parent in Appendix D and the participant in Appendix E. Additionally a copy of the Research Participant Bill of Rights can be found in Appendix F. Since the interviews were conducted with adolescents, the researcher was required to attain permission from a parent and the participant, in order to include the participant in the qualitative grounded theory study. The participant returned the permission forms to the researcher at the time of the interview.

Data collection with the purposefully selected group of 18 participants began on May 1, 2014. For the qualitative interviews, the identity of the participants was protected with an assigned identification number. The face-to-face semi-structured interview consisted of ten open-ended questions that provide greater detail related to the participants' experiences and observations of skill development in the secondary educational institution. Each interview was recorded by the researcher then transcribed by a third party and given to the participant for member checking to increase validity

(Creswell & Clark, 2011). With the assistance of NVivo 10, qualitative data analysis software, the researcher reviewed each transcript in conjunction with the interview notes and audio recording for accuracy as well as noted any verbal cues. As the qualitative data collection progressed, the voices of the participants were open coded and analyzed for properties and relationships, while the processes and researcher reflections were cataloged through an audit journal and memos. Data collection for the interviews concluded on May 28, 2014 when the point of saturation was reached with 16 participants. Of the original 18 participants selected, only 16 engaged in semi-structured face-to-face interviews that consisted of ten open-ended questions. Two of the 18 purposefully selected participants were not included because the number of contacts reached the maximum allotment, as specified by the Internal Review Board.

Data Analysis

In the analysis process, the researcher sought to translate the interpretations of reality in relation to workforce readiness development through the perspective of the participants using a constructivist grounded theory approach (Herring, 2011). Through audio recordings the researcher collected the data from the qualitative face-to-face interviews. During the interview, the researcher took notes with regard to verbal response and nonverbal cues. The recordings were transcribed by an outside resource. A copy of the transcription confidentiality disclosure agreement can be found in Appendix G. Upon receipt of the transcript of the interview, the researcher listened to each recording to verify accuracy of the document as well as to begin the process of open coding. Key points with regard to thoughts, impressions, and possible direction were added in the margins (Creswell, 2007; Strauss, 1987; Straus & Corbin, 1998) and

expanded upon in the audit journal. The transcribed documents with researcher notations were systematically coded in preparation for analysis within the constructs of grounded theory (Creswell & Clark, 2011). Matrices were used during the axial coding phase to determine categories, concept families, and major themes in order to organize and describe early relationships (Straus & Corbin, 1998). The use of theoretical and operational notes with selective coded data were continuously analyzed and reorganized into broad categories from which a hypothesis emerged and eventually a refined formalized theory (Straus & Corbin, 1998). NVivo 10 software was used to assist in the development of patterns and connections by searching for code prevalence, examining similarities and differences between codes, and ascertaining the relationship between the codes.

Quality and Verification

The study was designed with regard to trustworthiness and internal validity through triangulation, member checking, and an audit trail. Triangulation of data was cultivated through the combination of research data that were used that included the educational institution's survey as well as data related to the participants' academic performance that included grade point average and class rank. Additional data were collected in relation to the participants' workforce experience that included industry of employment, number of career and technical education courses, and benchmark scores in the subtests of English, Mathematics, and Science Reasoning on the standardized PLAN test. The subtest of English was chosen to represent communication, Mathematics was chosen to represent problem solving and Science Reasoning was chosen to represent teamwork with relation to career readiness according to standards set by ACT.

Furthermore, member checking increased validity, as the participant from the semi-structure interviews were asked to review transcripts and provided feedback on the data collected. Additionally, a single-coder increased reliability with regard to consistency in interpretation of data. During the collection and analysis of data as well as development of the theory, an audit trail reflectively documented the process to enhance validity.

Ethical Considerations

The research study was based in the ethic of “utilitarianism (the greatest good for the greatest number)” (Roberts, 2010, p. 31), in that increased awareness in workforce readiness skills at the secondary level increased the number of entry level employees who joined the workforce prepared with the skills desired by employers, which in turn impacted the United States economy. Additionally, the ethical consideration of “theories of justice (fairness and equity)” (Roberts, 2010, p. 31), considered the fact that not every American has the opportunity to access post-secondary education, which tended to be where emphasis was placed for development of workforce readiness skills according to the literature (Casner-Lotto & Barrington, 2006; Symonds et al., 2011).

The research study was comprised of qualitative interviews regarding the participants’ perceptions and experiences in the development of workforce readiness skills at the secondary level of education. The participants read and were required to agree to the terms of the informed consent in order to voluntarily participate in the interviews. Participants were assigned an identification number, which allowed for connection of data throughout the study and ensured confidentiality. Thus, in terms of the protection of human rights, this research study posed “minimal risk to the participants

psychologically, physically, or socially” (Roberts, 2010, p. 32). The IRB approval given for this social behavioral study with adolescents can be referenced in Appendix H.

Additionally, the above information and ethical considerations were presented to the participating educational institution to obtain written permission to access the research site.

The audio recording of the qualitative interviews were stored on an external hard-drive that was password protected. The external hard-drive was housed in a locked file cabinet for one year following the completion and defense of the study. Member checking, an audit trail, and triangulation were used as validation strategies to address ethical concerns related to data collection and interpretation. Furthermore, the researcher used unbiased and non-discriminatory language throughout the study.

Summary

This grounded theory study provided patterns and relationships in the phenomenon of workforce readiness skill development within the secondary level of education. The perspectives and experiences of the participants were those of adolescents who were still engaged in the developmental process in a Mid-western suburban high school. The data collected by the institution through a survey were used to identify participants for the interviews. Constant comparative analysis in addition to open, axial, and selective coding were used with the qualitative data to identify properties, patterns, and relationships, which led to the emergence of a grounded theory. Furthermore, the qualitative data, collected through semi-structured interviews, provided rich details in relation to the most effective actions for workforce preparation within the constructs of secondary education as well as enhanced the institutional data.

CHAPTER FOUR: RESULTS

Introduction

The qualitative study explored the phenomenological incongruent viewpoints of business and education with regard to workforce readiness of employees upon entry into the workforce (Hodges & Lear, 2011; Mourshed, Farrell, & Barton, 2012). Qualitative research provided data rich with details that encompassed a typical secondary educational setting as well as the perspective of the study participants, whom were engaged in the secondary educational system at the time of the study (Creswell, 2007; Moustakas, 1994; Roberts, 2010). The absence of literature related to workforce readiness skill development from the student perspective prompted the use of grounded theory. The study focused on awareness, application, and transference of workforce readiness skills, specifically communication, teamwork, and problem solving from an educational environment to the workforce.

This chapter contained a review of the methodology and data analysis procedures associated with the study as well as presented the results of the study. The results section was organized in accordance to the core themes that emerged from the analysis of participant responses with regard to bridging the gap in workforce readiness. The first section analyzed the responses of the participants in relation to limited depth and breadth of skill attributes in connection with development and practice of communication, teamwork, and problem solving. The second section analyzed the responses of participants with regard to pedagogical development of employer-desired skills. The final section analyzed the participants' recommendations to employers and educators in regards to bridging the gap in workforce readiness.

Review of the Methodology

The qualitative study was based in grounded theory to answer the over-arching research question of what theory explained the discrepancy in workforce readiness of secondary students? The first of two research sub-questions was how does awareness to employer desired workforce readiness skills impact student development? The second research sub-question was what actions at the secondary level of education engaged students' in the development and transference of employer desired workforce readiness skills, specifically communication, teamwork, and problem solving? The study was designed to gain perceptual data with regard to the participants' 21st Century skill development in academic and non-academic environments as well as transference of skills between environments. Auxiliary demographic data as well as supplemental workforce readiness experience data were collected for the purposes of triangulation and qualitative data augmentation.

The study was primarily designed to examine the phenomenon of workforce readiness. Secondly, the study enhanced the quantitative data previously collected by the educational institution where the qualitative study was conducted. The study was conducted at a Midwest suburban high school with students who were chronologically placed in eleventh grade. A sample population was identified for this qualitative study based on data from the survey previously administered by the educational institution. The study was designed to collect data through face-to-face semi-structured interviews with adolescents, which required the researcher to attain permission from a parent and the participant. The interviews were conducted over a period of four weeks with an average duration of 14 minutes. During the interviews, participants were allowed

to freely respond to the open-ended questions, which often netted more than one example of skill usage for a given question.

Participants.

Participants were assigned identification numbers that protected their identity, yet allowed data connection throughout the analysis process. The auxiliary data collected on participants included gender, ethnicity, and academic ability as determined by class rank and grade point average (GPA). The gender distribution of the study sample was eight males and eight females. Additionally, the sample included four participants classified as minority based on ethnicity. Academic ability was assessed through class rank and GPA. Class rank represented the participants' academic performance in relation to their peers, while GPA represented the participants' individual ability and motivation with the content. A tertile scale was chosen as the scale for class rank rather than a traditional quartile scale due to the fact that in a quartile scale both the second and third quartile represents the middle. A quartile rank scale created an unequal portion of students that represent the middle with relation to academic ability in comparison to peers. A tertile rank of one equates to the students who have the highest level of academic performance, while a tertile rank of two equates to average level of academic performance and a tertile rank of three equates to the lowest level of academic performance. GPA was assessed on a four point scale where four was equivalent to a letter grade of A, three was equivalent to a letter grade of B, two was equivalent to a letter grade of C, one was equivalent to a letter grade of D, and zero was equivalent to a letter grade of F. Table 1 delineated the demographic data of the participants that included gender, ethnicity, GPA, and tertile rank.

Table 1.

Participant Demographic Characteristics

Participant	Gender	Ethnicity*	GPA	Tertile Rank
QIP1	M	C	2.63	3
QIP2	F	C	3.99	1
QIP3	M	C	2.41	3
QIP4	M	C	2.82	2
QIP5	F	AA	2.00	3
QIP6	M	C	2.58	2
QIP7	M	L	1.60	3
QIP8	F	C	3.06	2
QIP9	F	C	3.44	1
QIP10	F	C	3.67	1
QIP11	M	B	2.89	2
QIP12	M	C	3.01	2
QIP13	F	C	2.73	2
QIP14	F	L	2.24	3
QIP15	F	C	3.46	1
QIP16	M	C	2.58	2

Note. * (C)aucasian, (L)atina/o, (B)i-Racial, (AA)frican-American

The academic distribution of the participants, based on class rank, represented a bell shaped curve with four subjects ranked in the upper tertile while another seven were from the middle tertile, and five from the lower tertile. Furthermore, the sample population had an average GPA of 2.81. Thus, based on the demographic data collected and displayed in Table 1, *Participant Demographic Characteristics*, the sample population was a fair representation of the general student population at large.

Supplemental data related to the participants' experience with workforce readiness skill development was collected for the purpose of data triangulation. The supplemental data included employment industry, number of career and technical education (CTE) courses, as well as PLAN college and career readiness scores. CTE courses integrate foundational knowledge and applied skills through hands-on workforce simulation type of experiences. The scores for the PLAN college and career readiness

represented a recognized appraisal product where, both college and career, skills were measured through a single multiple-choice assessment. The supplemental data provided additional sources of data to further understand the phenomenon and variables that impact workforce readiness perceptions. The data in Table 2, *Participant Workforce Experience*, delineated the participants' employment industry, and the number of career and technical education (CTE) courses completed in their high school experience through junior year as well as PLAN assessment scores in relation to college and career readiness (CCR) benchmark standards.

Table 2.

Participant Workforce Experience

Participant	Job	# CTE Courses	PLAN English (15)	PLAN Math (19)	PLAN Science (20)	PLAN CCR Benchmarks Attained
QIP1	artist, landscape	7	13*	17*	17*	0
QIP2	cashier retail	1	23	32	23	3
QIP3	food service	8	16	19	18	3
QIP4	food service	18	22	28	28	3
QIP5	telemarketing	6	16	15*	18	2
QIP6	food service	14	14*	21	15*	1
QIP7	food service	4	14*	14*	15*	0
QIP8	artist, volunteer	8	17	18	21	3
QIP9	food service	5	17	22	19*	2
QIP10	daycare	3	16	18*	21	2
QIP11	gov/office	13	12*	16*	18*	0
QIP12	food service	11	19	17*	23	2
QIP13	food service	5	17	14*	14*	1
QIP14	food service	7	15	18*	14*	1
QIP15	lifeguard	10	19	26	23	3
QIP16	food service	9	17	15*	20	1

Note. *Denotes score that does not meet the benchmark for college and career readiness.

According to ACT college and career benchmark standards, six participants met or exceeded the benchmark in the three subtests of English, Mathematics, and Science,

thus were considered college and career ready. Meanwhile three participants meet or exceeded the benchmark in two of the subtests and four other participants met or exceeded the benchmark in only one subtest. Three participants would be considered not college and career ready, as they did not meet any of the benchmarks for any of the subtests.

Data Analysis Procedures

Face-to-face semi-structured interviews were used to collect data from adolescents in the qualitative study. In each case, the interview was recorded, transcribed, and submitted for review by the participant to verify accuracy and increase trustworthiness of the study. The first step in the data analysis process was to review each transcript in conjunction with the audio recording for accuracy, conceptual content, as well as verbal and linguistic cues, which were documented with notations, underlines and symbols on the hard copy of the transcript. The data from each interview was uploaded into the NVivo qualitative software program, where each individual interview question was dissected, examined, and open coded through constant comparative analysis methods (Creswell, 2007; Strauss, 1987; Strauss & Corbin, 1998). Within the interview, participants were asked a series of three questions that were repeated with a different skill choice. Fourteen participants selected communication and teamwork while only four selected problem solving. Thus, the skills chosen for evaluation by participants are delineated in Table 3, *Participant Skill Choice*.

Table 3.

Participant Skill Choice

Participant	Choice 1	Choice 2
QIP1	T	C
QIP2	C	T
QIP3	T	C
QIP4	T	C
QIP5	C	T
QIP6	PS	C
QIP7	C	T
QIP8	T	C
QIP9	T	C
QIP10	C	T
QIP11	C	T
QIP12	T	C
QIP13	PS	C
QIP14	T	C
QIP15	T	PS
QIP16	PS	T

Note. (T)eamwork, (C)ommunication, (PS)Problem Solving

The data were initially coded according to the identified skill and environment in which the skill was referenced. Upon completion of open coding of the data for each interview, a reflective memo was written to summarize the researcher's thoughts, impressions, and identification of potential categories. The memos were discussed with a source unrelated to the study to assess the logical connection, enhance clarity, and increase trustworthiness of the analysis process. The categories that emerged from the data during open coding were communication, teamwork, and problem solving in educational and non-educational environment as well as advice to education professionals and employers, plus skill development, transference, relevance, and interpersonal attributes.

The initial step in the second phase of qualitative data analysis was to read through all the open coded data related to a particular category. Constant comparative

analysis methods and axial coding were used to discover properties and relationships within the selected excerpts of open coded data (Creswell, 2007; Strauss, 1987; Strauss & Corbin, 1998). Handwritten charts were created to visually represent the data for further examination of properties. During the axial coding phase, reflective memos were written for each category to summarize connections, intuitions, and hypotheses. Furthermore, comparative analysis was performed between categories and subcategories to elaborate upon cumulative knowledge with regard to properties and formation of relationships (Creswell, 2007; Strauss, 1987; Strauss & Corbin, 1998). As a check for quality and trustworthiness, the memos were discussed with a source unrelated to the study to assess the logical connection and enhance clarity.

The final step was selective coding in which the axial-coded data were reexamined for causal condition, context, strategies, and consequences in quest of a theory that explained the interrelationship of the categories that emerged in previous phases of coding (Creswell, 2007; Strauss, 1987). The data were selectively coded to the themes of depth and breadth of skill practice, pedagogy associated with skill development, and participant recommendations. The qualitative analysis coding phases and themes were outlined in Appendix I.

Results

The data collected and analyzed in the study of the perceived gap in workforce readiness with regard to communication, teamwork, and problem solving skills developed into two themes. One of the two themes that emerged was related to depth and breadth of practice with relation to skill attributes within the educational and non-educational environments. The second theme that emerged was the pedagogy associated with skill

development in the educational setting and transference to non-educational settings. A third theme that emerged was participant advice to employers and educators in relation to workforce preparation. The three identified themes each presented sub-themes to further explain the phenomenon.

Depth and Breadth of Skill Development and Practice

In analysis of the data, the skills were analyzed in relation to the range of practice associated with the skill attributes within the educational and non-educational environment. Depth of skill development was defined through complexity, degree of intensity, and thoroughness of usage in relation to the range of skill attributes and pedagogy (Merriam-Webster, 2014). While breadth of skill development was defined through range of understanding, scope of practice, and variety of experiences, which incorporated the elements of individuals and environments (Merriam-Webster, 2014). The skills of communication, teamwork, and problem solving were analyzed for depth and breadth of attributes as well as similarities and difference of practice within the educational and non-educational environments.

Communication.

The definition of communication that was presented to participants was “the act or process of using words, sounds, signs or behaviors to express or exchange information or to express ideas, thoughts, feelings, etc., to someone else” (Merriam-Webster, 2014). Fourteen of 16 participants selected communication as one of the skills to respond to in the series of three questions, which netted 22 examples of communication within the educational environment. Despite specific reference in the interview question, to recall and describe a specific lesson, only two of 14 respondents recalled two specific examples

of communication within a World History and a World Language course. Eleven of 14 respondents referenced communication within the educational environment related to generalized one-on-one verbal communication with the teacher outside of class for the purpose of meeting an individual need such as additional help with content, grade changes, and to get missing assignments as an example of communication. Additionally, three of 14 respondents referenced generalized group interaction with classmates, through either verbal exchanges or email, to complete a project or task as an example of communication. Furthermore, three of 14 respondents referenced generalized class presentations as an example of communication within the educational environment. None of the respondents referenced other forms of communication such as active listening, nonverbal communication such as body language, written communication such as books, or multimedia sources of communication such as videos or Internet blogs as examples within the educational environment.

In a non-educational environment, the 14 respondents referenced 21 examples of communication of which eight were specific in nature. The non-educational examples were categorized by setting in which four of 14 respondents identified communication examples related to a personal or leisure type of situation, while three of 14 respondents identified extracurricular activities, and 13 of 14 respondents identified work activity of which seven of 14 respondents cited a specific work process or protocol. Furthermore, 12 of 14 respondents in 15 examples referenced face-to-face communication, while only three of 14 respondents in four examples referenced phone conversations, and two of 14 respondents referenced non-verbal communication in relation to communicating with non-native speakers. The data with regard to variety and frequency of communication

examples cited by participants were displayed in Figure 1, Distribution of Communication Examples Cited by Participants.

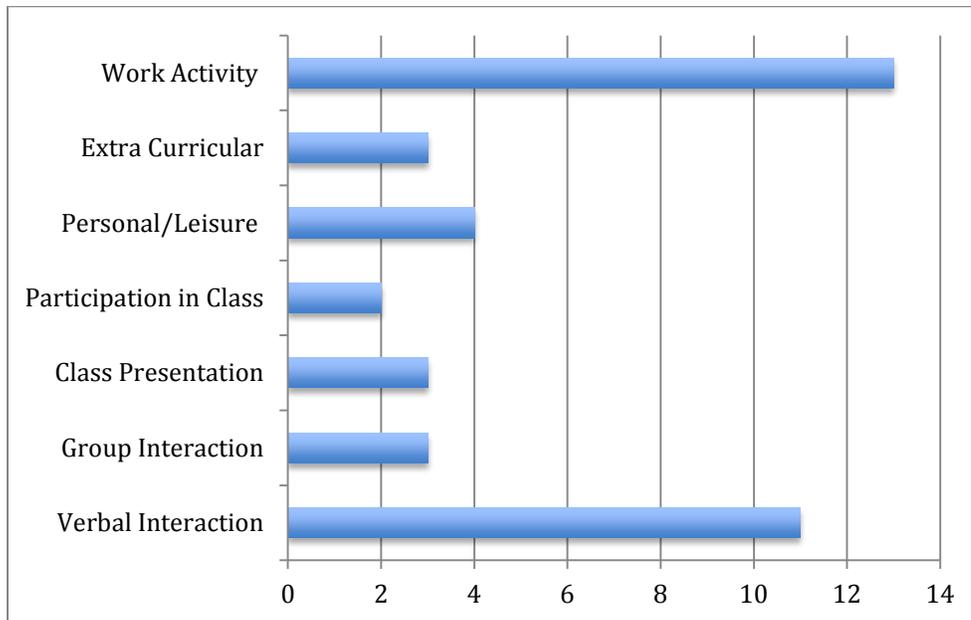


Figure 1. Most frequently cited examples of communication in educational and non-educational environments.

From the data, the subthemes of form, purpose, and audience emerged from the attributes of communication within both environments.

Communication forms. Face-to-face verbal interaction was the predominate form of communication referenced by respondents in both environments with reference from 79 percent of respondents in the educational setting and 88 percent of respondents non-educational setting. One respondent noted, “it is not always going to be the same kind of communication.” To a lesser degree than face-to-face, email and presentations were referenced as other forms of communication in the educational environment while phone conversations, text messages, and nonverbal forms of communication were referenced in non-educational settings.

Intended audience. One participant stated, “you think about your words more and you think about how to best convey what you’re saying, but it continues to like improve the way you talk to people and you learn what kind of words and what kind of intonation will best fit who you’re speaking to.” Within the educational environment, 11 of 14 respondents referenced examples of communication with the teacher while an additional six of 14 respondents referenced examples of communication with classmates. Meanwhile, in the non-educational environment, ten of 21 examples of communication referenced a colleague, while three of 14 respondents referenced a supervisor, three of 14 referenced customers, and one of 14 referenced a subordinate. Within the personal/leisure setting, two of 21 of examples referenced strangers as the intended audience, one of 21 of examples referenced an authority figure, and another one of 21 examples referenced a friend.

Purpose. Within the educational environment, 11 of 14 respondents referenced meeting an individual need such as additional help with content, grade changes, and to get missing assignments while six of 14 respondents referenced exchange of information as the most common examples of purpose for communication in the educational environment. Meanwhile, in the non-educational environment, 13 of 14 respondents referenced examples of communication with colleagues for the purpose of sharing information that would direct actions to accomplish a task with minimal confusion, and three of 14 respondents referenced feedback in relation to work performance as a purpose for communication. One participant remarked that in the non-educational environment, “basically you need to communicate with a lotta people in order to, to keep things running.”

Teamwork.

The definition of teamwork provided to participants was “work done by several associates with each doing a part but all subordinating personal prominence to the efficiency of the whole” (Merriam-Webster, 2014). Fourteen of 16 participants selected teamwork as one of the skills to respond to for the series of three questions, which netted 19 examples of teamwork within the educational environment. Eleven of 14 of respondents referenced projects and experiments as examples of teamwork in the classroom setting. Five of 14 respondents’ examples were of a general nature, while three of 14 respondents specifically cited science experiments as an example and six of 14 respondents cited a specific course that was not science. One of 14 respondents referenced a team sport within the context of a physical education course as an example of teamwork. Three of 14 respondents referenced examples of teamwork with smaller numbers of team members, such as two or three people, collaborating or sharing information on in-class assignments.

In a non-educational environment, the 14 respondents cited 18 examples of teamwork. The non-educational examples were categorized by setting in which two of 14 respondents identified teamwork examples related to a personal or leisure setting, while five of 14 respondents identified extracurricular activities, and 11 of 14 of respondents identified work activity of which ten of 11 of respondents referenced specific work processes. Three of 14 respondents cited the dynamics of competitive team sports as an example of teamwork. The data with regard to variety and frequency of teamwork examples cited by participants were displayed in Figure 2, Distribution of Teamwork Examples.

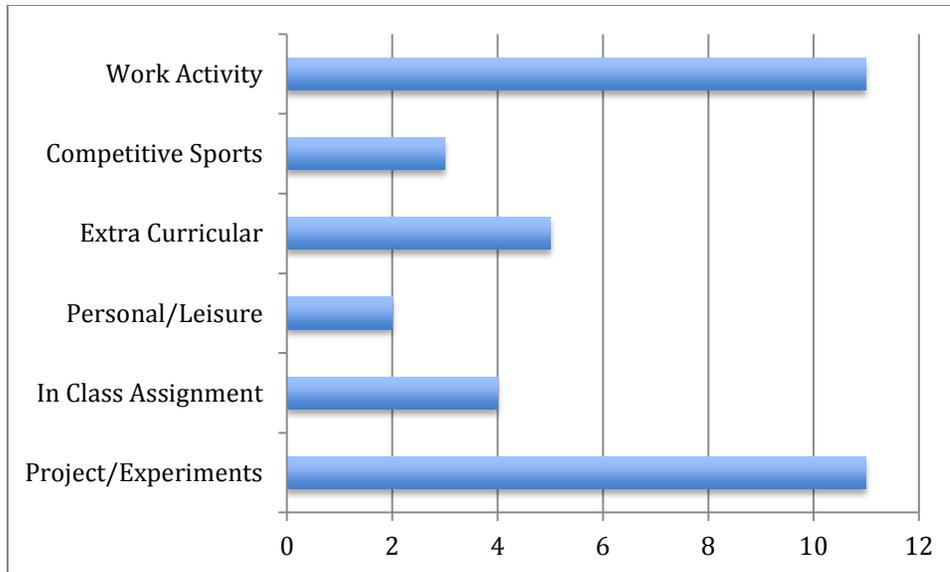


Figure 2. Most frequently cited examples of teamwork in educational and non-educational environments.

From the data, the subthemes of process, group dynamics, and interpersonal skills emerged from the attributes of teamwork within both environments.

Process of teamwork. In the educational environment, 79 percent of respondents referenced projects or experiments as the primary educational activity to develop teamwork skills. Four of the respondents described the instructional process for teamwork as generalities such as those defined in the participant statement, “the teacher told us that we needed a certain amount of people in our group, and she give us the deadlines and one meeting time in the beginning so that we could kind of meet each other. And then we just had to meet the deadlines.” In the non-educational environment, 79 percent of respondents referenced a work process as an example of teamwork. Additionally, six of 14 respondents referenced role assignment in relation to the teamwork process, as described by one participant

At the fast food restaurant there’s always the person that orders the food and there’s always the person that like makes sure that the food’s cooked when it’s

ordered and, and there's a person that like bags the food and everything. So I guess you could consider that teamwork because there's always a person doing something to like make it work and stuff like that.

Furthermore, one participant commented on the difference in roles between the environments "in the classroom, it kinda helped me figure out what role I had to play 'cause I ended up leading this project. But then, at work I couldn't lead 'cause I'm not like the adult in the situation."

Group dynamics. Two of 14 respondents expressed dislike for teamwork activities within the educational environment due to an imbalance of power and workload among team members as described by one participant, "they're not my favorite thing in the world because it usually tends eventually to be an unbalance of some, of work just through lack of motivation among others or inaccessibility to certain things or just they're not as stressed as I am so I worry about it more so I just get it done." Additionally, six of 14 of respondents referenced trust, reliability, and familiarity with group members as key elements in teamwork. In reference to the formation of groups, one participant stated, "when students are allowed to form their own groups they tend to work with others with whom they are familiar," while another commented, "you learn to either trust people to get their work done or you learn that if you really want it done, you're probably gonna have to do it yourself."

Interpersonal skills. Six of 14 respondents identified a direct relationship in the application of communication skills within the context of teamwork as remarked by a participant, "communication is tied very, very closely to teamwork." Additionally, three of 14 participants respondents referenced the element of openness in the teamwork

process with the statement, “it might be good to work with somebody else or work with a team or a group of people because everybody will have different ideas and everybody will have something different to say.” Furthermore, only one of 14 respondents referenced the use of relationship-building skills and shared experience to engage all members in the teamwork process. The participant cited the example of “I want you to do this for me, and I need help with this. And that makes it a stronger motivator for the people instead of you ordering them around. That’s not teamwork.” Another participant referenced the element of transformational leadership in the teamwork process with the statement, “you have to be able to understand if somebody’s not getting something and try and display it in a different fashion as to help them learn.”

Problem solving.

The definition of problem solving provided to participants was “the process of finding solutions to difficult or complex issues” (Oxford, 2014). Four of 16 participants selected problem solving as the skill in which to respond to the series of three questions, which netted four examples of teamwork within the educational environment. A thorough analysis of the attributes of problem solving was indeterminate, due to the limited number of responses. However, based on the small number of responses, within the educational environment, three of four respondents identified examples of problem-solving related to resolving an issue on their own behalf such as getting caught up after an absence and managing time in relation to large projects. In the non-educational environment, three of four respondents cited four examples of teamwork of problem solving on behalf of their employer and/or a customer in response to an unplanned or

unexpected event. Despite the lack of responses, one participant posited a statement in relation to critical thinking within the skill of problem solving,

for problem solving, a lotta people like the box. They like, I know it's like there's this thing called function fixedness, which basically, well, say you need to like hammer a nail in a piece of wood. You don't have a hammer around so you're like, "Oh, well, can't do that." But maybe behind you there's a trophy that you could've used. It's an odd object but it still would've gotten the job done. I think a lot of people don't really think about stuff like that.

In conclusion, an analysis of the qualitative data revealed the theme of depth and breadth in skill development and practice in the educational and non-educational environments. Constant comparative analysis was used to further examine the development and practice of the individual attributes associated with communication, teamwork, and problem solving, which resulted in subthemes that further explained the phenomenon of underprepared employees upon entry into the workforce. The subthemes associated with communication were form, audience, and purpose, while the subthemes associated with teamwork were process, group dynamics, and interpersonal skills. The results associated with problem solving were not definitive due to the low number of respondents that chose to discuss that skill.

Pedagogy Factors Associated with Skill Development

The educational institution conducted an initial survey entitled Workforce Readiness. The students were asked to identify factors that influenced their choice of skills most desired by employers. The data from participants' responses were mined

from the survey, compiled, and displayed below in Figure 3, Influential Factors in Participants' Choice of Employer Desired Skill.

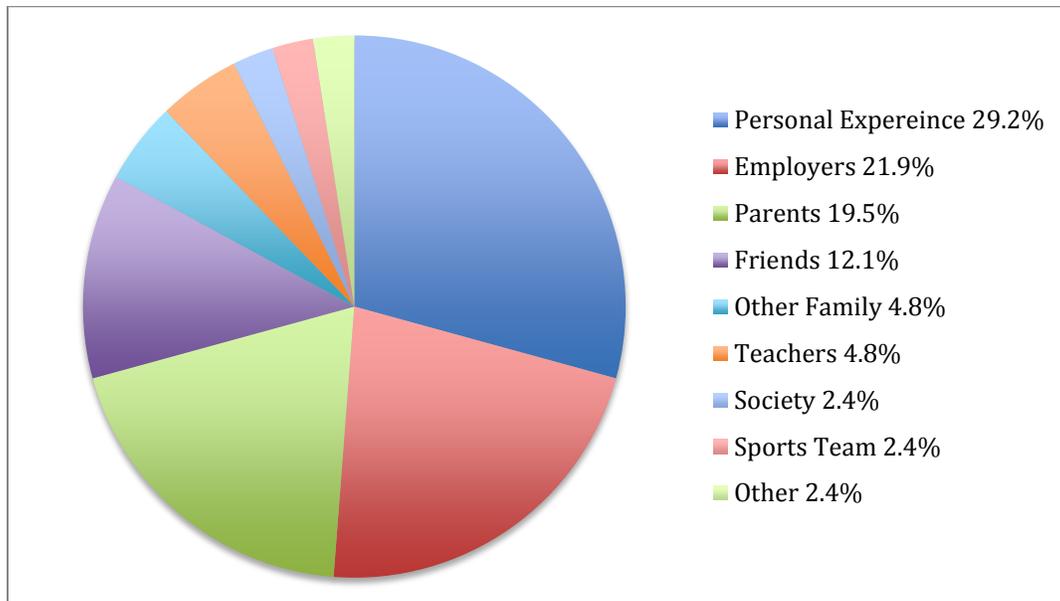


Figure 3. Frequency of factors that influence participants' choice of employer desired skills

Figure 3 indicated that the primary influences on the participants' choice of employer desired skills were parents, employers, and personal experiences. Only two of 16 participants cited teachers as an influential factor in their choice of employer desired skills. A participant's statement that "some classes just seem like they're just testing you on your learning" reflected the focus of educational institutions. These two elements brought focus to the educational system and the role of education professionals in workforce readiness skill development, specifically lesson delivery, level of thinking, contextual learning, assessments, and transference.

In analysis of the qualitative data, another central theme that emerged was the similarity and density of participants' responses with relation to identified examples of skill development in communication, teamwork, and problem solving. The skills were analyzed in relation to the educational aspects that impacted the development of the

identified skills within the educational environment and transference to non-educational environments. The study participants were regularly engaged in best practices of teaching that included multiple methods of delivery, which were influenced by the education professionals' strengths, preferences, and subjective evaluation. As part of the interview, participants identified examples of skill development within the classroom.

Lesson delivery.

An analysis the data from the interviews yielded a wide range of lesson delivery related to development of employer desired skills from a "hands-off, figure it out for yourself," as described by one participant, to "detailed step-by step instructions" from another participant. Seven of 16 participants interviewed did not recall, even when prompted, any examples of direct instruction related to the development of communication and teamwork skills. One participant noted, "the teachers they don't really like teach about like the specific skill."

The most frequently cited example for development of communication in the educational environment was one-on-one verbal exchanges with the teacher outside of class by 79 percent of respondents, followed by group interaction for a project by 21 percent of respondents, and class presentations by 21 percent of respondents. One participant cited the following specific example of skill development within a World Language classroom, "the only class in which I actually learn about communication is in Spanish. In Spanish we have to, right now we're communicating with people overseas in different countries. And so we have to communicate with them in different languages and get it like so they can understand it effectively." With only two specific examples of

communication in World History and World Language courses, a thorough analysis of lesson delivery in relation to skill development of communication was indeterminate.

Meanwhile, with relation to teamwork, 79 percent of respondents cited projects or experiments as the most frequent activity for development of skills within the educational environment. Thirty-six percent of respondents cited generalized examples of teamwork. Additionally 21 percent of respondents referenced a science course in which “there’s heavy step-by-step things and you have to understand every step that goes into it,” while 43 percent referenced informal examples of teamwork “even with day-to-day work a lot of teachers will encourage that you communicate with the rest of the people at your table to complete like a worksheet that was given.”

Level of thinking.

The 16 participants provided 35 examples of level of thinking in relation to skill development within the educational environment. The level of thinking was determined based on key words used by participants in the description of the class lesson. Twenty-two of the examples were of a general nature similar to the participant statement, “we really just apply communication in like presentations.” Furthermore, 79 percent of respondents cited projects and talking with their teacher outside of class as examples of application of teamwork and communication skills. Thus, these statements were classified at the application level of thinking. The remaining 13 examples specifically identified a course and detailed a class lesson or activity, of which 10 were classified at the application level of thinking.

Overall, of the 35 examples, only three were classified as examples at the synthesis level of thinking. One participant described an activity in Spanish class in

which communication skills were developed as “we could either video chat with them or send them a message. And they respond, and then we have to figure out like what’s appropriate to send back.” Another participant offered the following example:

Teamwork is so important like when putting together a publication or getting up, a story up on our online site. Talking to everyone and working together so like we know that it’s gonna go up and like it’s gonna be good. And it’s just very important to like have those people that you can rely on ‘cause sometimes someone has to work or things come up. And so teamwork is like what we really rely on to like get things done for our publications and so that’s how we manage our time and stuff in class.

The example was from the perspective of a leader whose end product will be evaluated by more than just the education professional. Furthermore, six of 16 participants indicated that communication, teamwork, and problem-solving skills were naturally developed within daily life events as summarized by a participant, “I think through school, growing up with people, and you’re always around people. You kinda just pick that up naturally.”

Contextual learning.

Contextual learning, as previously defined in chapter one, was the connection of knowledge through an applicative experience in the context of life or the workforce (CORD, 2012). The criteria used to categorize a classroom activity, as contextual learning, was the application of foundational skills in an experiential manner, in which the participant might engage upon entry into the workforce. Of the 16 participants, seven participants described generalized examples of skill development that did not yield data

related to contextual learning. While nine of 16 participants provided specific references that provided a detailed description of the class activity for categorization as contextual learning in relation to skill development within the educational environment.

An analysis of the coded data disclosed two of the nine participants cited the identification, research, and development of a resolution to current a social or ecological issue within the construct of a literature or science course, respectively. Five of the nine, all participants offered an example of a simulation activity within the constructs of World History, World Language, and CTE courses such as Journalism, Accounting, and Construction. Additionally, one participant noted the example of a team sport learned in a Physical Education course that had become a favored activity in the family setting. Furthermore, one participant stated, “I can’t really emphasize it enough, but you learn everything you need for work in construction classes. They’ve been the most helpful in every part of it. They hit all the big fields on what you need to do for the class and the classes, they’re like job experience really.”

Assessment.

A participant posited, “some of these skills it’s kind of difficult to sort of quantify them. To sort of look at them as, as a grade or number or letter and say, oh, well, this is a pass, this is a fill, or fail.” Unique to the educational institution where the study was conducted, each course has one or two performance assessments also known as proficiencies that students must complete in order to pass the class. The proficiencies have been a part of the institution’s educational programming since 1997. The purpose of the proficiency was to demonstrate a student’s ability in teamwork, problem solving, or writing in English and outside of English plus others. Thus, data were collected about

an established method of assessment of workforce readiness skills from the perspective of the participants with regard to effectiveness.

The 16 participants' expressed a variety of opinions on proficiencies as a way to demonstrate skill attainment. Six of the 16 participants were positive about proficiencies, which was confirmed with statements that generally viewed this as a "better way to assess what you're good at and what like your skills are in that particular like subject or proficiency." The positive responses were generally associated with proficiencies that reflected skill complexity and relevant application. While two of 16 participants were negative and seven of 16 participants had mixed responses such as "depends upon the class." The negative opinions reflected such things as lack of clarity, purpose, and complexity through statements such as "I don't really see them as making us exercise our, these three skills." Furthermore, 50 percent of participants had mixed favorability on the effectiveness of the performance assessments. One participant remarked, "a lot of them just, they're, they're just a way like something that the teachers have to assign to the student. And I, I think that it's like how the students feel and how the teachers feel as well. They're not really like into it." Meanwhile another participant stated, "prepares you like for greater things in life, basically like, I mean, that's just somethin' minor. But like once you get out there in the real world it's like basically like, Oh, I ha-, this happened to me once so I can do this. I can overcome this as I did before."

The 16 participants provided 27 examples related to proficiencies. Of those 27 examples, nine did not reference a specific course. Math and science courses, which commonly have problem solving as the proficiency, were most frequently cited with 10 examples. Of the six examples that cited science proficiencies, three referenced only the

attributes of communication, teamwork, and problem solving skills while three others cited course content as well as attributes. Four examples cited math proficiencies, which were describe as redundant because it was the same type of work that was done in class as summarized by one participant, “like in math, like I don’t get why we have a proficiency. I mean, I understand like why but I just don’t make that connection.” The three examples related to the English proficiency were referenced similarly with such comments as “like in English you already have to write enough and then with the proficiency, it’s just another like writing assignment.”

Transference.

The 16 study participants provided 51 examples of factors that influenced transference of communication, teamwork, and problem solving skill development from the educational to the non-educational environment. Six of 16 participants defined transference of skills as an innate ability, common sense, or naturally happened. Eleven of 16 participants referenced getting individual needs met or assistance as a factor that influence transference of skills as described by a participant, “basically like from like personal experience, like if you just sit there and do nothing, nothin’s gonna happen.” Additionally, ten participants referenced similarity in experiences as a factor that influenced transference of skills between environments. One participant offered an example of transference between environments as,

at school the Spanish class. Just figuring out how to communicate in different languages. I went to Africa last summer. And so when I was there it was very hard to communicate with the people, but it was still easier because we like, we would practice with...how to talk and not, if you don’t know what you’re saying,

make it look like you...feel bad for not knowing what you're saying so they don't get upset with you.

Three of 16 participants cited encouragement and directives from family members as a factor that influenced transference of skills between environments as stated by a participant, "my brother's always bugged me about how, if you can't do anything by yourself, you have to ask someone to help you." Furthermore, three of 16 participants referenced examples of contextualized learning as a source for skill development and transference. One participant posited reality television as a factor that influenced transference with the statement, "I've seen it on TV where people were assigned to do something in a certain amount of days and they have to be able to do stuff and communicate with their partners so that way they can get the stuff right and don't create a mess and that could cause problems."

In conclusion, an analysis of the qualitative data revealed the theme of pedagogy associated with skill development in the educational environment. Constant comparative analysis was used to further examine the pedagogy associated with the development of communication, teamwork, and problem solving skills, which resulted in subthemes that further explained the phenomenon of underprepared employees upon entry into the workforce. The subthemes associated with pedagogy were lesson delivery, level of thinking, contextualized learning, assessment, and transference.

Participant Recommendations

One of the ten interview questions, asked participants to offer their perspective in relation to what, if anything, was missing from their preparation for the workforce. To this question, six of 16 participants replied, "nothing was missing." Five of 16

participants offered instructional modifications that included such things as multiple examples from a variety of situations that are challenging with comments such as “not something that would be kind of similar, a little more challenging or different somehow because everything’s not gonna be the same thing in real life” and “everything is so laid out for us and so there’s no room for us to actually apply our knowledge ourselves” and develop “functional fixedness.” Additionally, two of 16 participants suggested establishment of relevance with statements such as “we never talk about like even if you don’t think this is applicable in your life, how it could be helpful like in the workforce” because “it’s always like ‘why do we need to know this?’ And I don’t know if the teachers know why we need to know it either.” Furthermore, six of 16 participants referenced development of interpersonal and self-management skills with such statements as “how to handle that situation and how to work with people who might not want to work with you in return,” “help you be independent,” and “learning how to not procrastinate.”

Another of the ten interview questions asked participants to offer their perspective in relation to insights or suggestions they would share with employers in order to bridge the perceived gap in workforce readiness. Four of the 16 participants offered suggestions related to interpersonal relations, specifically openness and respect, with such comments as “I think they, just ‘cause with all this technology and gadgets and TV that we don’t know a lot or we don’t want to do anything, but I think there’s a lotta people that really want to but they get misjudged because they think every single person’s exactly the same, and we’re not.” Additionally, five of 16 participants suggested patience and support with comments such as “understand that it is your first job” and “that not everyone knows all

the skills they need to be successful at their jobs,” plus “it takes a flexible schedule like for people who are in clubs and like sports and different things and actually have like family stuff that they have to deal with.” Furthermore, three of 16 participants referenced generational differences with statements such as “it seems that like our generation is like kind of scared to talk to older people,” and “that we’re not all the way that they perceive us because there are a lotta stereotypes about the teenagers in today’s society.” What’s more, four of 16 participants referenced differences with technology capabilities, which impacted communication as indicated in the statement, “we have a Twitter account. And like so many students just go to that to look at everything and it’s like more are getting away from like the phone calls.”

In conclusion, the theme in the recommendation from participants that was common to both educators and employers was to create a safe environment with caring relationships that encouraged learning, provided assistance, and welcomed questions. For educators specifically, the recommendations included variety, rigor, and relevance built into classroom lessons, plus development of interpersonal and self-management skills. To the employers specifically, the recommendations included interpersonal relations such as openness, patience, support, as well as respect and appreciation with regard to generational differences.

Summary

The chapter presented the findings of the qualitative interviews conducted with 16 high school juniors in regards to their perceptions of workforce readiness skill development within the educational and non-educational environments. The findings were the perceptions of the study participants as analyzed and interpreted by the

researcher through grounded theory methodology. The findings developed into three major themes with sub-categories that further explained the phenomenon. The core themes were included (1) depth and breadth of skill development and practice with the sub-categories of communication, teamwork, and problem-solving; (2) pedagogy associated with skill development with the sub-categories of lesson delivery, level of thinking, contextual learning, assessment, and transference; (3) participant recommendations.

The elements of quantitative data from the Workforce Readiness survey conducted by the educational institution and the qualitative data from the interview provided both breadth and depth of the phenomenon in order to recognize, substantiate, and “form a unique interpretation of events” (Creswell, 1994, p.159) with relation to workforce preparation within the constructs of secondary educational institutions. Constant comparative analysis was utilized in order to establish the properties and relationship of the analyzed data, which supported the findings of the grounded theory study on the phenomenon of the perceived gap in workforce readiness in which underprepared employee entry into the workforce.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

Introduction

Workforce readiness of entry-level employees has been an interdisciplinary issue that has spawned multiple research studies from the perspective of those who will employ the end product of the educational system (AMA, 2010; Casner-Lotto & Barrington, 2006; Mourshed, Farrell, & Barton, 2012; Warner, Gates, Christenson & Kiernan, 2011). However, the literature review revealed that there was a lack of research with regard to closing the perceived workforce readiness gap at the secondary level of the educational system. Thus, the purpose of the study was to develop a theory that explained the discrepancy in workforce readiness of secondary students. The study was significant because of the unique perspective provided by the study participants who were currently engaged in the developmental process within the secondary educational system. The data collected was rich with insight into the developmental processes of 21st Century skills, specifically communication, teamwork, and problem solving at the secondary level of education. The study enhanced the literature related to the perceived gap in workforce readiness from a previously unexplored viewpoint.

This final chapter of the dissertation was comprised of three sections that included a review of the study, discussion of the findings, and conclusions from the study as related to the phenomenon of workforce readiness at the secondary level of education. Through the perception of secondary students, the study revealed that a relationship existed within the educational environment between skill development and workforce readiness. Thus, workforce readiness skill awareness, application, and transference within secondary educational institutions were necessary components to increase the

level of employee competence upon entry into the workforce. Recommendations from the study to address the phenomenon included systematic and intentional 21st Century skill development, variety in pedagogy, as well as awareness and development of human capital, specifically interpersonal and self-management skills. Increased awareness to 21st Century skills specifically communication, teamwork, and problem solving as well as expanded opportunities, experiences, and expectations for development within the secondary level of education were of the utmost importance to bridge the gap in workforce readiness.

Review of the Study

Due to the diverse perspective of multiple stakeholders surrounding the phenomenon of workforce readiness as well as the social and historical constructs, the qualitative study was based on a constructivist worldview within the theoretical lens of social science (Creswell & Plano-Clark, 2011). Thus, the qualitative research study used grounded theory methodology to examine the perceived gap in workforce readiness upon entry into the workforce with respect to the secondary level of education. The role of the researcher in the study was that of an insider who was employed in the education industry as well as an advocate for career education and readiness. A sample of 16 eleventh grade students, from a Midwest suburban high school, was purposefully selected from the larger population to participate in semi-structure face-to-face interview, which consisted of ten open-ended questions. Participants were selected based on responses to a Workforce Readiness survey, administered by the educational institution, in which students self-identified their employment status, employer desired skills, and observations of skill development in the classroom.

Analysis of the qualitative data was supported with the use of NVivo software. The data were initially open-coded by skill and environment. Through constant comparative analysis and axial coding, properties and relationships were discovered within the open-coded data (Creswell, 2007; Strauss, 1987; Strauss & Corbin, 1998). The subthemes that emerged from the data related to complexity of skill development, narrow range of experiences and environments, pedagogy associated with skill development, and humanistic qualities all of which were chronicled in memos. In the selective coding phase of analysis, depth and breadth of skill development and practice in conjunction with the pedagogy associated with skill development and participant recommendations emerged as the core themes.

Discussion of the Findings

The study was guided by the overarching research question to discover a theory that explained the discrepancy in workforce readiness of secondary students. Based on the perspective of 16 high school juniors, the responses revolved around three core elements that included depth and breadth of skill development and practice, pedagogy associated with development, and humanistic qualities. The data provided by participants and analyzed by the researcher indicated that students received little in the way of direct instruction and lessons that required higher order thinking in relation to the development of 21st Century skill, specifically communication, teamwork, and problem solving skills. Several participants referenced the fact that development of these skills within the educational environment did not necessarily require coursework because development naturally occurred as a part of the high school experience. The central theme that emerged with relation to the three core elements was the lack of systematic and

intentional skill development as well as lack of variety in experiences, environments, and individuals in the examples identified by participants with relation to the development and practice of communication, teamwork, and problem solving. A graphic representation of the grounded theory that emerged from the study can be found in Appendix J.

Depth and Breadth of Skill Development and Practice

Based on an overall analysis of the responses from participants in relation to the attributes of communication, teamwork, and problem solving, the development and practice of these skills were limited in depth and breadth. The data revealed that participants identified only a portion of the attributes and usages associated with the full range of development and practice for the identified skills of communication, teamwork, and problem solving. There was a predominance of examples in the educational environment where verbal exchanges were the identified form of communication, product was the focus of teamwork, and problem solving was on the behalf of the participant. If participants were to have a full range of depth in the development of the identified skills, the examples would have included complexity, degree of intensity, and thoroughness that included the development and practice of other forms of communication, the elements of process and human qualities associated with teamwork, and problem solving on the behalf of others as well as integration of critical thinking.

Communication.

An analysis of the qualitative data in relation to awareness and application of the attributes related to communication revealed there was a difference between the educational and non-educational environments. The participants referenced a limited

scope of forms of communication, intended audience, and purposes within the educational setting. When communication was referenced by participants in the educational environment, it was primarily a verbal exchange with the teacher related to individual needs, but in the non-educational environment the focus shifted to verbal exchanges primarily with colleagues related to directing action for task completion within the work processes. The primary intended audience for communication was flipped in the different environments, which alters the formality of the interaction and the style of communication. In the education environment, the authority figure was predominately referenced by participants as the primary audience while in the non-educational environment, the colleague was predominately referenced as the primary audience. Additionally, participants' intended audience was limited to peers and teachers in the educational environment. While in the work environment, the intended audience expanded and varied greatly to include supervisors, customers, and coworkers, which were in some cases multi-age and multi-generational interactions (Jenkins, 2008; Murphy, 2007).

Furthermore, the most common purposes for communication, in general, were for the exchange of information, achievement of a common goal, and fulfillment of individual needs. In both environments, the purpose of communication was to share information. However, based on participants' responses, the purpose of communication in the educational environment primarily assisted the individual in meeting their own needs, while in the non-educational environments communication primarily assisted the work process through socialization, assistance to others, as well as directed behaviors and actions. Thus, there was greater depth and breadth of experiences and practice in relation

to the attributes of communication specifically form, audience, and purpose outside the educational environment.

Teamwork.

An analysis of the qualitative data, in relation to awareness and application of the attributes associated with teamwork in both environments, revealed commonalities that included shared purpose and communication. The analysis also revealed differences that emerged between environments with regard to the teamwork attributes of process, group dynamics, and interpersonal skills. In the educational environment, participants referenced the application of teamwork skills to attain the end goal of a project or experiment with little reference to the teamwork process. Meanwhile, the opposite was true in the non-educational environment where participants referenced the teamwork process in order to attain the shared purpose of the work team.

The participants posited that teamwork related lessons were not always a positive experience for everyone. The formation of teams and the dynamics of the teamwork process were general left up to the participants with little input or direction from the education professional. Group dynamics was an attribute of teamwork that required the use of other skills such as relationship building, patience, as well as reliance on others and their expertise. In the educational environment, students brought a similar degree of content expertise to a teamwork project. However, there was a difference in the degree of academic capabilities and motivation, which amplified concerns in relation to imbalance of power and workload among team members. Within the educational setting, the consequence associated with teamwork failure was a poor grade on the project, which was not always a concern or a source of motivation for all team members.

A point of significance was that in the educational environment the focus of teamwork was on the product or end goal rather than the process and the human qualities. Participants' referenced key elements of teamwork such as trust, familiarity, and accountability, but only two participants referenced relationship building as part of the teamwork process. There was less depth and breadth of experiences and practice in relation to the attributes of teamwork specifically those that incorporated interpersonal and self-management skills. In the example of a competitive sports team, the attributes of teamwork include knowledge of the process, assigned positions, team members' expertise was valued, commitment to fellow players, and a shared purpose. Thus, there was a discrepancy in the development of teamwork within the educational environment in relation to shared purpose and process.

Problem solving.

A significant point was the fact that only 25 percent of participants chose to respond to the series of questions in relation to problem solving in both the educational and non-educational environments. However, an additional five participants informally referenced problem solving in either an educational or non-educational setting, but not both, which inhibited the analysis of variables related to the development and transference of problem solving skills. Despite the lack of responses, the three points of significance that emerged surrounding the analysis of problem solving were beneficiary of the resolution, response to an unplanned or unexpected situation, and critical thinking. In the educational environment, participants' examples were primarily problem solving on their own behalf, while in the non-educational environment problem solving was related to or on the behalf of others. Participants also had limited potential for unplanned

or unexpected lessons, which inhibited their ability to prepare for similar situations. Furthermore, the limited exposure to a variety of experiences and environments limited the participants' opportunity to engage in critical thinking and thereby enhance transference of skills.

In summary, the data revealed shared commonalities among skill usage between environments. However, it also revealed a greater scope of usage of 21st Century skills attributes within the non-educational environment. Depth and breadth of skill development and practice in relation to all the attributes of communication, teamwork, and problem solving was limited by variety of experiences, environments, and individuals engaged.

Pedagogy Factors Associated with Skill Development

An analysis of data in relation to depth and breadth of skill development and practice revealed a direct connection to the educational system and the role of education professionals in relation to the perceived gap in workforce readiness. More specifically, the data revealed that level of application, scope, focus, and evaluation of these skills were different in the educational environment where the skills were learned and the workforce where skills were utilized. Additionally, the skills desired by employers were not consistently expanded upon, nor was a higher level of thinking always demanded within the educational environment in relation to the development of communication, teamwork, and problem solving skills.

Lesson delivery.

The Workforce Readiness survey revealed that only 13 percent of participants cited teachers as an influential factor in their choice of employer desired skills. Based on

the data, teachers were not considered a resource for developing workforce readiness skills. However, the role of the teacher in the education industry significantly impacted student preparation for post-secondary education and the workforce. Educators decided what content was delivered, how it was delivered, and evaluated, which impressed upon students what was important. Lessons were delivered differently by different teachers based on their individual strengths and passions, as is human nature (Marshall, 2013). Additionally, students received the intent of the content differently based on their own individual strengths and passions.

In relation to lesson delivery, a point of significance was the limited range of educational methods and practices used in the development of communication, teamwork, and problem solving skills. Based on the perspective of participants, development and practice of employer desired skills happened naturally as one progressed through life. Only 44 percent of participants referenced direct instruction, in which the examples cited were related to processes of an experiment or project not development of communication, teamwork, or problem solving skills. The significance was accentuated in the data with the facts that 79 percent of respondents' described verbal exchanges in relation to development of communication skills and 79 percent of respondents offered examples of projects or experiments in relation to development of teamwork skills. Additionally, only one participant was able to recall a true example of skill development rather than just an application of the skill. There was an inverse relationship in the fact that 79 percent of participants identified verbal exchanges as examples of communication when only seven percent of communication was the actual spoken word (Mehrabian, 1972). The limited range of communication attributes

developed within the secondary education system was further accentuated in the data by the fact that none of the participants identified active listening, body language, and published works as examples of communication.

Level of thinking.

An analysis of the data revealed that there was a narrow spectrum for level of thinking in relation to the development and practice of communication, teamwork, and problem solving. Based on participant responses, only nine percent of the classroom lesson examples were classified at the synthesis level of thinking. The data uncovered a higher portion of the application level of thinking with regard to development of communication, teamwork, and problem solving. The participants should have more examples at higher level of thinking given their grade level, stage of cognitive development, and proximity to entry into the workforce.

Contextual learning.

Analysis of the data revealed that the identified examples of contextual learning spanned multiple content areas of instruction that included core and elective courses equally. Sixty-three percent of participants that defined a specific example of contextual learning had a range of enrollment from one to 14 CTE courses, which resulted in a mean of eight, median of eight, and mode of eight classes. Meanwhile 37 percent of participants that cited a generalized example of contextual learning had a range of enrollment from five to 18 CTE courses, which resulted in a mean of nine, median of seven, and mode of five classes. A direct relationship between contextual learning and the number of CTE course completed was not quantitatively established. However, the qualitative data established a connection between contextual learning and skill

development as 63 percent of participants' referenced specific examples of skill development in the classroom through an applicative experience in the context of life or the workforce (CORD, 2012). Additionally, 13 percent of participants noted a connection between skill development and CTE courses as they intentionally designed their high school course work to include a series of CTE courses in order to prepare for life beyond high school.

Assessment.

Quantifying and evaluating communication, teamwork, and problem solving skills were difficult as there were no universally accepted instruments for measurement. Based on analysis of the participants' test result data associated with the national level *PLAN* assessment of college and career readiness, 38 percent of participants met or exceeded the standards for all three readiness benchmarks, while only 19 percent of participants did not meet any of the benchmarks, however all participants were currently or had been employed. The data revealed a discrepancy in the ability of a formal standardized assessment to evaluate the skills desired by employers. Thus, a direct relationship between workforce readiness and 21st Century skill development through a standardized assessment was not quantitatively established.

At the local level, the educational institution where the study was conducted utilized performance assessment to evaluate writing, teamwork, and problem solving. Thirty-eight percent of participants responded favorably to the effectiveness of performance assessments referencing the conditions of complexity, relevance, future usefulness, and contextualization as criteria for effectiveness. Meanwhile, 13 percent of participants remarked negatively to the effectiveness of performance assessments

referencing as criteria redundancy as well as lack of clarity, purpose, challenge, and alignment. Based on an analysis of the participants' perspective, there were inconsistencies related to significance, purpose, rigor, and expectations of performance assessments throughout the curriculum and faculty that impacted effectiveness. Thus, it was difficult to effectively measure communication, teamwork, and problem solving skill attainment through standardized and performance assessments.

Transference.

An analysis of the data revealed that 81 percent of participants indicated that transference of skills occurred innately in the pursuit of individual need fulfillment. The primary factors from the educational environment that influenced transference were contextual learning, previous knowledge, and similarity of experiences. Meanwhile, personal experience and family were factors from the non-educational environment that influenced transference. Participants posited similarity of experiences that utilized previous knowledge in a variety of contexts led to confidence and comfort in application of skills in new situations.

In summary, the data revealed a limited range of educational methods and practice and a narrow spectrum of higher order thinking, which inhibited the development of all the attributes associated with communication, teamwork, and problem solving skills. Additionally, the lack of a universal accepted instrument to effectively measure skill attainment allowed for subjective assessment of workforce readiness, which unduly influenced perceptions with regard to degree of preparedness. Contextual learning and similarity to a previous experience, as reported by participants, enhanced transference of communication, teamwork, and problem solving skills.

Participant Recommendations

A point of relevance existed in that 37 percent of participant responded that nothing was missing from their preparation for the workforce. The participants' responses may have been impacted by multiple factors. The first of which was the school culture that operated within the constructs of modular scheduling where students were allowed independent study time in which they chose how to use their time. Secondly, societally beliefs that quality of education and degree of academic rigor were criteria related to preparation for the world of work may have influenced some participants. Additionally, ACT promotes college and career readiness together, which may be perceived by some as synonymous. However, ACT exam measured foundational academic knowledge, which was an element of career readiness; but the ACT exam did not specifically measure the employer-desired skill of communication, teamwork, and problem solving nor did it measure attainment of technical skills (ACT, 2011, ACTE, n.d; Casner-Lotto, & Barrington, 2006).

Another point of relevance was the fact that 44 percent of participants' referenced factors related to pedagogy that included variety, rigor, and relevance as missing from their workforce preparation. The advice from the participants aligned with the skill set necessary for employment in a Knowledge Age based economy in which individuals needed an intellectually advanced skill set along with the capabilities to apply skills at higher levels of thinking (AMA, 2010; Perry & Wallace, 2012). Information was easily accessible with the assistance of technology, however students needed to know how and why to use information as part of their preparation for the world of work. Additionally, 37 percent of participants referenced development of interpersonal skills that not only

encompassed the skills of communication, teamwork, and problem solving, but also included self-management that incorporated such qualities as motivation, accountability, and time management. As participants innately demonstrated a degree of workforce readiness skills upon entry into the educational environment, it stemmed to reason that development of workforce readiness skills were not necessarily the focus of the educational system.

An analysis of the data related to insights for employers on bridging the gap revealed the theme of human qualities and relations. A point of interest was the fact that 56 percent of participants shared insights related to relationship building that included employer expectations, leadership style, and organization operations. Additionally, 56 percent of participants were employed in the food service industry, which operated based on an Industrial Age organizational model that was production focused and transactionally managed (NCEE, 2007; Perry & Wallace, 2012). From the participants' perspective, the underlying essence of relationship building posited perceptions of being misjudged, disrespected, and undervalued. Furthermore, 44 percent of participants identified generational differences related to stereotypes and communication. This created discord for Generation X participants, who value relationships (Jenkins, 2007).

From the perspective of participants, the qualitative data revealed that instructional development of communication, teamwork, and problem solving skills within the educational environment was limited in depth and breadth of development and practice. Lesson delivery, level of thinking, and assessment were associated with knowledge of content and not development of 21st Century workforce readiness, interpersonal or self-management skills. Moreover, advice from participants for

education professionals was to include variety, rigor, and relevance while employers were to give attention to the human qualities of the business.

Conclusions

Given the data collected from participants' perspective and analyzed by the researcher, the skills of communication, teamwork, and problem solving have not been developed to their full capacity within the educational environment. Additionally, there seemed to be an assumption that students have a thorough knowledge of these skills because they are applied on a daily basis. However, there was a lack of depth and breadth with regard to a complete definition, attributes, and diversity in application of skills, which was one aspect of why there was a perceived gap in workforce readiness. Furthermore, the pedagogy associated with the development of employer-desired skills lacked intentionality and variety. The phenomenon was further explained when human qualities that include interpersonal and self-management skills were considered in relation to preparation for the world of work. However, the study results were not without unexpected findings.

Surprises

The researcher was surprised by the concentration of similarity in examples, level of thinking, lack of participants that chose problem solving, and emergence of humanistic elements in skill development. The similarity in participant responses with regard to examples of communication and teamwork within the educational setting resulted in limited depth and breadth of examples. Another surprise was a significantly higher portion of lessons at the application level of thinking given the participants' grade level and proximity to entry into the workforce. Additionally, the relatively low number of

participants that chose to discuss problem solving was a surprise due to the prevalence of problem solving associated with mathematics and science classes. An added surprise was the emergence of human qualities in relation to skill development. The researcher had not previously considered this as a variable in workforce preparation.

Implications for Action

In order to address the perceived deficiencies in workforce preparation, the study findings recommended implications for action related to systematic and intentional skill development, variation in pedagogical aspects, and enhancement of personal characteristics. As described by participants, direct instruction specifically related to the development and practice of communication, teamwork, and problem solving skills was limited in depth, breadth, and variety. Additionally, participants' reported pedagogical examples were limited in variety, level of thinking, rigor, and relevance. Analysis of the data further revealed a connection between skill development and personal characteristics that included interpersonal and self-management skills. The lack of diversity and limited range of capabilities with communication, teamwork, and problem solving were plausible reasons as to why employers believed that students were not prepared for the workforce.

Systematic & intentional skill development.

The fact that 86 percent of participants provided generalized examples was a point of relevance in relation to preparation for the workforce. This revealed the fact that there was a discrepancy in the definition, development, and practice of communication, teamwork, and problem solving skills between the education and non-education environments. The data related to communications revealed that participants lacked awareness, development, and practice of the multiple attributes associated with

communication. The attributes associated with communication included but were not limited to such aspects as audience, purpose, formal and informal diction, expository and technical writing, synchronous and asynchronous communication methods, as well as active listening. In relation to teamwork, the data revealed that the attributes of teamwork were not universally known or used in the teamwork process by participants. The attributes associated with teamwork included but were not limited to such aspects as the process, shared leadership, group dynamics, accountability, interpersonal and self-management skills. Within the education environment, there was a preponderance of drill and practice associated with the development of problem solving skills in mathematics and science courses to which there was one correct answer.

To fully develop all the attributes associated with the skills of communication, teamwork, and problem solving, education professionals must execute the following:

- Expand students' knowledge of all the attributes associated with each skill as well as cultivate their capabilities and confidence in skill usage.
- Create awareness, application, and transference of skills through practice, cross-curricular integration, and contextualization.
- Adopt a set of universal problem solving steps that can be globalized for use in all content areas.
- Develop opportunities for students to respond to unplanned or unexpected situation in order to enrich problem-solving skills.

Pedagogical variation.

The fact that 79 percent of participants provided similar examples of skill development in relation to communication and teamwork was a point of interest in

relation to preparation for the workforce. This revealed the fact that there was a pedagogical deficiency with relation to the development and transference of 21st Century skills within the educational environment. The limited variety in experiences, environments, and individuals inhibited the transference of skills between environments.

A second point of importance was that participants cited the fact that their educational experience was too structured and did not allow students to struggle with concepts or engage in critical thinking. Much like the process of an assembly line in the Industrial Age, students were going through the motions that were mandated by the educational institution (Pink, 2006). The current education environment was teacher centered, thus students were less than fully engaged in their educational experience and did not take pride or ownership in their learning (Gallup, 2013).

A third point of relevance was the fact that 91 percent of examples referenced by participants were at the application level of thinking. Since students arrived at the secondary level of education with the ability to apply communication, teamwork, and problem solving skills, there was little consideration for the variety of attributes and scope of experiences that were required of these skills in preparation for the workforce. As a result, students were missing a significant portion of depth and breadth in relation to the all the attributes associated with communication, teamwork, and problem solving skills.

In order to close the perceived gap in workforce readiness and develop the skills of communication, teamwork, and problem solving, education professionals must implement the following:

- Shift pedagogy to student centered environment in which there was more facilitation and fewer lectures, thereby shifting the responsibility for learning to students.
- Create a delicate balance of direct instruction, teacher specific expectations, and student centered learning to stimulate students' creativity and critical thinking.
- Establish relevance for learning which may include but not be limited to contextualization to non-educational environments.
- Generate opportunities and challenge students to develop skills to higher levels of thinking, utilize skills in other venues, and diversify capabilities with multiple attributes.
- Provide experiences to increase awareness of skill attributes and develop skills in inquiry and creative thinking.
- Include within daily lessons objectives for 21st Century skill development that challenge students to engage in higher levels of thinking.
- Create lessons that allow students to develop and practice all attributes of communication, teamwork, and problem solving.
 - Example: A teamwork project in which every member is assigned to only communicate in one form, which must be different from the rest of the members. Plus, all groups are missing a different key piece of information necessary to resolve the problem. Each group must figure out what is missing and how to get it.

Development of human capital.

The fact that only 19 percent of participants directly referenced personal characteristics in relation to preparation for the workforce was an important point. Through analysis of the data, interpersonal and self-management skills emerged in relation to development of communication, teamwork, and problem solving skills. Furthermore, in the Industrial Age of manufacturing Baby Boomers were in leadership roles within a transactional organizational climate and investment in human capital was not a priority (Jenkins, 2008). However, the economic landscape shifted to include the Knowledge and Conceptual Ages of goods and services where Millennials were in leadership roles within a transformational organizational climate. The skills of communication, teamwork, and problem solving were easily identified symptoms of the bigger issue, which was the lack of development of interpersonal and self-management skills in preparation for the workforce (Jenkins, 2008).

To close the perceived gap in workforce readiness, education professionals must expand awareness and capabilities with relation to interpersonal and self-management skills, through implementation of the following:

- Provide experiences that increase awareness and expand interpersonal and self-management skills.
- Create opportunities for students to engage in intergenerational activities.

Additionally, employers will need to recognize and resolve the following in order to close the perceived gap in workforce readiness.

- Examine the possibility that what was really desired were over-arching interpersonal skills, which encompassed the skills of communication, teamwork,

and problem solving as well as self-management skills that included but were not limited to goal setting, time management, independence, self-reliance, productivity, and resiliency.

- Recognize that individual qualities such motivation to perform and intellectual capabilities impacted perceptions of workforce readiness.
- Release the one size fits all mentality of the Industrial Age and embrace the uniqueness of individuals in the Knowledge and Conceptual Ages of economic development.
- Develop and facilitate engagement of multi-generational teams with multi-talented individuals.

Based on the analysis of the data, the education industry must expand students' definition, awareness, development, application, and transference to encompass all attributes associated with communication, teamwork, and problem solving through instructional experiences, higher order of thinking, and real world relevance. Furthermore, employers must take into consideration their role and engage in the development of future human capital within the secondary level of education.

Recommendations for Further Research

Given that there was limited research on workforce readiness with regard to the secondary level of education, there were a multitude of opportunities for further research. Since the study was conducted in a secondary educational setting that utilized modular scheduling, one recommendation would be to conduct the same study in a secondary setting that utilized a traditional or block-schedule format and compare the results. Another recommendation for further research would be to compare the degree of 21st

Century skill development between secondary education institutions. To determine if there was a relationship in the caliber of development based on educational institution, a survey of employers could be conducted in which they evaluate the utilization of skill in the work environment.

Within the secondary educational environment, another recommendation for further study would be to compare the teachers' perspective in relation to the development of communication, teamwork, and problem solving skills to that of students (Hodge & Lear, 2011). This may include a survey and/or interview of the teachers as to the skills most desired by employer and their perspective of skill development within the classroom. The results could then be compared with the students' impression of skill development within the classroom either at a building, department, or teacher level. Additionally, the low number of higher level thinking examples of skill development presented another potential opportunity for further research. A study could be conducted in relation to life span cognitive development and higher level of thinking skill development to determine if students were developmentally capable of critical thinking and synthesis level of thinking.

As an assessment is a key indicator in the education industry, another potential study would be to determine the evaluation criteria and assessment methods of communication, teamwork, and problem solving skills by employers and education professionals. A collaborative effort between industries will be necessary to determine how to best assess skill development and proficiency that will benefit both industries. Assessment consideration may include the type of instrument such as a formative or summative, and demonstrative or standardized, as well as norm-referenced accuracy of

the assessment with consideration to the influences of different geographical locations across the United States.

Concluding Remarks

This qualitative study used grounded theory to examine the phenomenon of the perceived gap in workforce readiness with regard to the secondary level of the educational system through the perspective of high school students. Data were collected through semi-structured face-to-face interviews with purposefully selected participants. Through constant comparative analysis, properties and relationships emerged from the open and axial coded data. From an analysis of the data, the three themes that emerged were depth and breadth of skill development and practice, pedagogy associated with development, and human capital development. The study found that development and practice of all attributes related to communication, teamwork, and problem solving were limited due to experiences, environments, and individuals. Additionally, the narrow range of educational methods and practice as well as the limited spectrum of higher order thinking inhibited the development of the skills desired by employers. Furthermore, participants' advice for education professionals was to incorporate variety, rigor, and relevance into lessons while employers were to initiate consideration of the human aspects of their business. To address the phenomenon of the perceived gap in workforce readiness at the secondary level of education, the recommendations from the study include systematic and intentional 21st Century skill development, variation in multiple aspects of pedagogy, as well as awareness and development of human capital.

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Appendix A: Institution Workforce Readiness Survey

1. Are you currently (or in the past been) employed? (Y/N)
YES
 - a. At what age did you begin working at least 10 hours per week consistently? (14, 15, 16, 17, 18)
 - b. In what industry was your first job? (Food Service (fast, casual, fine); Retail (clothing, grocery, other material goods); Telemarketing; Landscaping/Lawn Service; Other)**NO**
 - c. Have been unemployed by choice? (Y/N)
If Yes, Why? (extracurricular activities, parents, unable to get a job, other)
2. What workforce/career readiness skills do employers desire most in entry-level employees?
(Please select 3 skills from the following list)
 - a. Communication
 - b. Creativity/Innovation
 - c. Critical Thinking
 - d. Ethics
 - e. Interpersonal skills
 - f. Problem Solving
 - g. Professionalism
 - h. Teamwork
3. Which of the following factors influenced your choice in the previous question?
 - a. Parents
 - b. Other Family members
 - c. Friends
 - d. Teachers
 - e. Employer
 - f. Personal experience
 - g. Society
 - h. Clubs (such as DECA & Skills USA)
 - i. Sports Teams
 - j. Other
4. How many elective career education courses have you taken?
 - a. 0 – 2
 - b. 3 – 5
 - c. 6 or more
5. Have the courses been in the same content area? (Business, Family & Consumer, Art, Engineering Technology, Journalism) (Y/N)

6. In your educational experience, how often in a given week do CORE (Math, English, Social Studies, Science and World Language) teachers reference workforce/career readiness skills and employer expectations?
 - a. 0-1
 - b. 2-3
 - c. 4 or more

7. In your educational experience, how often in a given week do CORE (Math, English, Social Studies, Science and World Language) teachers conduct a lesson that includes or references real world application of the content or skill?
 - a. 0-1
 - b. 2-3
 - c. 4 or more

8. In your educational experience, how often in a given week do Career Education (Business, Engineering Technology, Family & Consumer Studies, and Health Sciences) teachers reference career readiness skills and employer expectations?
 - a. 0-1
 - b. 2-3
 - c. 4 or more

9. In your educational experience, how often in a given week do Career Education (Business, Engineering Technology, Family & Consumer Studies, and Health Sciences) teachers conduct a lesson that includes or references real world application of the content or skill?
 - a. 0-1
 - b. 2-3
 - c. 4 or more

10. Do you feel prepared to enter the workforce? (Y/N)

Appendix B: Question/Variable Alignment Matrices

Survey Questions	Variable
1. Are you currently (or in the past been) employed?	Contextual Learning; Prior Experience; Influences
1a. If yes, at what age did you begin working at least 10 hours per week consistently?	Experience
1b. In what industry was your first job?	Experience
1c. If no, have been unemployed by choice?	Experience
1d. If Yes, Why?	Experience
2. What career readiness skills do employers desire most in entry-level employees?	Contextual Learning
3. Which of the following factors influenced your choice in the previous question?	Contextual Learning; Prior Experience; Influences
4. How many elective career education courses have you taken?	Prior Experience; Influences
5. Have the courses been in the same content area?	Prior Experience; Influences
6. How often in a given week do CORE (math, English, Social Studies, Science and World Language) teachers reference career readiness skills and employer expectations?	Contextual Learning; Differentiated Pedagogy
7. How often in a given week do CORE (math, English, Social Studies, Science and World Language) teachers conduct a lesson that includes or references real world application of the content or skill?	Contextual Learning; Differentiated Pedagogy; Level of Learning Behavior
8. How often in a given week do Career Education (Business, Engineering Technology, Family & Consumer Studies, and Health Sciences) teachers reference career readiness skills and employer expectations?	Contextual Learning; Differentiated Pedagogy
9. How often in a given week do Career Education (Business, Engineering Technology, Family & Consumer Studies, and Health Sciences) teachers conduct a lesson that includes or references real world application of the content or skill?	Contextual Learning; Differentiated Pedagogy; Level of Learning Behavior
10. Do you feel prepared to enter the workforce?	Experience
11. Would you be willing to participate in a short interview about your high school experiences with workforce preparation?	

Interview Questions	Variable
1. Recall and describe a classroom lesson in which you learned problem-solving, communication, or teamwork	Contextual Learning; Differentiated Pedagogy; Level of Learning Behavior
2. Recall and describe a time when you used the skill identified in question one outside the classroom	Contextual Learning; Level of Learning Behavior
3. Reflect on factors and experiences that assisted in the transference between environments	Contextual Learning; Differentiated Pedagogy; Level of Learning Behavior
4. Recall and describe a classroom lesson in which you learned problem-solving, communication, or teamwork	Contextual Learning; Differentiated Pedagogy; Level of Learning Behavior
5. Recall and describe a time when you used the skill identified in question one outside the classroom	Contextual Learning; Level of Learning Behavior
6. Reflect on factors and experiences that assisted in the transference between environments	Contextual Learning; Differentiated Pedagogy; Level of Learning Behavior
7. Based on your experience and knowledge with secondary education and employer expectations, what if any thing is missing from your preparation for the workforce?	Prior Experience
8. What, if any, insights would you like to share with relation to workforce readiness, employer expectations and secondary education?	Prior Experience

Appendix C: Letter of Introduction

April 21, 2014

Dear Parent/Guardian,

My name is Melissa Hansen and I am the Director of Guidance at Westside High School as well as the K-12 Career Education & Readiness Coordinator. I am also a doctoral student in the Interdisciplinary Leadership Program at Creighton University in Omaha, NE. My doctoral dissertation is entitled *Bridging the Gap in Workforce Readiness Through Secondary Education*. As part of the requirements for my doctoral degree, I am conducting a research study of secondary student awareness of employer desired workforce readiness skill development and transference. Furthermore, the school district will use the information from this study to enhance curriculum and instruction in relation to career education and workforce readiness.

The purpose of the study is to determine if and where the disconnection exists between learning career readiness skills such as problem solving, communication, and teamwork in the classroom and transference of these skills to the workforce. Participation in this qualitative study will be voluntary. Your student was chosen for a follow-up interview based on their employment status and identification of employer desired skills. The interview will take approximately 25 minutes to complete, which will happen at the student's convenience during an independent study mod. The student will not be required to answer any questions that cause them discomfort. The interviews will be recorded so that I can accurately reflect the perceptions provided by the student. The information collected for this study will be kept confidential. The recordings will be securely stored for a period of one year after the study has been presented, after which they will be destroyed.

I will be happy to answer any questions you have about the study. You may contact me at (402) 343-2619 or by email at melissahansen1@creighton.edu or mhansen@westside66.org. Additionally, you may contact my faculty advisor, Dr. Debra Ponec, at (402) 280-2557 or by email at dponec@creighton.edu if you have study related questions or problems. I have enclosed a copy of the Bill of Rights for Research Participants, however, if you have additional questions about your student's rights as a research participant, you may contact the Office of Research Compliance at Creighton University at (402) 280-2360.

Please return one copy of the enclosed Parental Permission form and one copy of the Child Consent form as affirmation that your student will be able to participate in the research study interview. The form can be returned to me in care of Westside High School either via your student or the enclosed self-addressed stamped envelope. Thank you for your consideration to participate in this study that will provide career readiness development data from the perspective of students.

Sincerely,

Melissa Hansen
c/o Westside High School
8701 Pacific St
Omaha, NE 68114

Appendix D: Parental Permission Form

Creighton University Parental Permission

Protocol Title: Bridging the Gap in Workforce Readiness through Secondary Education

Protocol Number: 14-17011

Principal Investigator: Melissa Hansen, Graduate School – Leadership Studies

Also: Director of School Counseling at Westside High School

Principal Investigator Address: 8701 Pacific St, Omaha, NE 68114

Principal Investigator Phone: (402) 343-2619

Cooperating Institution: Westside High School

This study will investigate the phenomenon of the perceived gap in workforce development of entry-level employees, which has been a concern for over 30 years. This study seeks to identify, define, and elicit possible solutions to the gap within the secondary education environment. Participants were purposefully selected to receive an invitation to take part in the research study based upon their self-reported employment status, identification of employer desired skills, and observation of skill development in a classroom setting. If you have any questions or concerns about the study, please feel free to contact me at (402) 343-2619 or by email at mhansen@westside66.org.

Study Purpose and Procedures

The purpose of the study is to determine if and where the disconnection exists between learning workforce readiness skills, specifically problem solving, communication and teamwork in the classroom and transference of these skills to the workforce. This study will collect research data via a single face-to-face semi-structured interview with each participant. The interview will take approximately 30 minutes to complete, which will happen at the participant's convenience during an independent study mod. The interviews will be recorded so that your child's experiences and perceptions are accurately reflected. The child will have the opportunity to review the transcript of the interview to make sure it accurately reflects their experiences and perceptions.

Benefits of Participation

There are no direct physical, social, emotional, behavioral, or intellectual benefits to the child. However, a theory may emerge from the data collected from this study that the school district may use to enhance curriculum and instruction in relation to career education and workforce readiness.

Risk of Participation

The child will be exposed to minimal risk, no greater than one would encounter in daily life. The interview questions inquire as to the child's educational experiences and perceptions related to the development of workforce readiness skills. Additionally, the child will not be required to answer any questions that cause them discomfort.

Confidentiality

To protect the child's privacy and identity, an assigned number will be used to distinguish one interview from another. The recordings of the interview will be securely stored on a password protected hard drive for a period of one year after the study has been presented, after which the recorded interviews will be destroyed. I will do everything I can to keep the data collected from your child's interview confidential. However, it cannot be guaranteed. I may need to report certain information to agencies as required by law. Additionally, I may present the research findings at professional meeting or publish the results of this research study in relevant journals. However, I will always keep your child's name, address, and other identifying information private.

Disclosure of Appropriate Alternatives

Participation in this research study will be voluntary and as such there will be no negative impact on the child for not participating. The parent and child will be given ample time to consider their desire to participate in the study. The child will only be contacted three to five times in order to invite, arrange, and conduct the interview. Furthermore, no rewards or compensation will be offered to the child to unduly influence participation. Even though the researcher is a staff member at the research site, a reminder will be given to the child that for the duration of the interview her role is that of a researcher. I have also included a copy of the Bill of Rights for Research Participants with this permission form.

Contact Information

If at any point in the study you have questions, please feel free to contact me at (402) 343-2619 or by email at mhansen@westside66.org or my faculty advisor Dr. Debra Ponec at (402) 280-2557 or by email at dponec@creighton.edu. If you have any questions or concerns about your student's rights or this study, you may contact the Office of Research Compliance at Creighton University at (402) 280-2360.

Termination of Participation

Participation in this research study will be voluntary and as such there will be no negative impact on the child if he/she should choose to withdraw from the study at any point. Furthermore, a child's participation may be terminated if the number of attempts to schedule an interview exceeds three.

Signature Clause

Your child is free to refuse to participate in this research project or to withdraw your permission and discontinue participation in the project at any time without penalty or loss of benefits to which you are otherwise entitled.

My signature below indicates that all of my questions have been answered. I agree to allow my student to participate in the project as described above.

Printed Name of Parent/Guardian

Signature of Parent/Guardian Date Signed

The Creighton University Institutional Review Board (IRB) offers you and your child an opportunity to (anonymously if you so choose) to discuss problems, concerns, and questions; obtain information: or offer input about this project with and IRB administrator who is not associated with this particular research project. You may call or write to the Institutional Review Board (IRB) at (402) 280-2126; address the letter to the Institutional Review Board, Creighton University, 2500 California Plaza, Omaha, NE 68178 or by email at irb@creighton.edu.

A copy of this form has been given to me. _____ Parent/Guardian Initials

For the Research Investigator--- I have discussed with the parent/guardian the procedure described above and the risks involved; I believe he/she understands the contents of the permission document and is competent to give legally effective and informed permission.

Signature of Responsible Investigator Date Signed

We would appreciate your feedback on your experience as a research participant at Creighton University; please fill out our survey at <http://www.creighton.edu/participantsurvey>

Appendix E: Participant Assent Form

Creighton University Assent for Children Age 15-18

Protocol Title: Bridging the Gap in Workforce Readiness through Secondary Education

Protocol Number: 14-17011

Principal Investigator: Melissa Hansen, Graduate School – Leadership Studies
Director of School Counseling at Westside High School

Principal Investigator Address: 8701 Pacific St, Omaha, NE 68114

Principal Investigator Phone: (402) 343-2619

Cooperating Institution: Westside High School

I would like to extend an invitation to you to join in a research study about the development of career readiness skills, specifically problem-solving, communication and teamwork. This study seeks to identify, define, and draw possible solutions to the perceived gap in workforce development within the secondary education environment. You were purposefully selected to receive an invitation to participate based on your self-reported employment status, identification of employer desired skills, and observation of skill development in a classroom setting through Westside's Career Readiness survey. You may ask questions at any time and you may also say no at anytime. Your parents or legal guardians will also be informed and asked to grant permission for your participation in the study. If you have any questions or concerns about the study, please feel free to contact me at (402) 343-2619 or by email at mhansen@westside66.org.

Study Purpose and Procedures

The purpose of the study is to determine if and where the disconnection exists between learning workforce readiness skills, specifically problem solving, communication and teamwork in the classroom and transference of these skills to the workforce. This study will collect research data via a single face-to-face semi-structured interview with each participant. The interview will take approximately 30 minutes to complete, which will happen at your convenience during an independent study mod. The interviews will be recorded so that your experiences and perceptions are accurately reflected. You will have the opportunity to review the transcript of the interview to make sure it accurately reflects your experiences and perceptions.

Benefits of Participation

There are no direct physical, social, emotional, behavioral, or intellectual benefits to you. However, a theory may emerge from the data collected from this study that the school district may use to enhance curriculum and instruction in relation to career education and workforce readiness.

Risk of Participation

You will be exposed to minimal risk, no greater than you would encounter in daily life. The interview questions inquire as to your educational experiences and perceptions related to the development of workforce readiness skills. Additionally, you will not be required to answer any questions that causes you discomfort.

Disclosure of Appropriate Alternatives

Participation in this research study will be voluntary and as such there will be no negative impact for not participating. You will be given ample time to consider your desire to participate in the study. You will only be contacted three to five times in order to invite, arrange, and conduct the interview. Additionally, prior to commencement of the interview you will be given a reminder that for the duration of the interview, the Westside staff member's role is that of an unbiased researcher. I have also included a copy of the Bill of Rights for Research Participants with this assent form.

Confidentiality

To protect your privacy and identity, an assigned number will be used to distinguish one interview from another. The recordings of the interview will be securely stored on a password protected hard drive for a period of one year after the study has been presented, after which the recorded interviews will be destroyed. I will do everything I can to keep the data collected from your interview confidential. However, it cannot be guaranteed. I may need to report certain information to agencies as required by law. Additionally, I may present the research findings at professional meeting or publish the results of this research study in relevant journals. However, I will always keep your name, address, and other identifying information private.

Compensation

Participation in this study is voluntary and as such no rewards or compensation will be offered to influence participation.

Contact Information

If at any point in the study you have questions, please feel free to contact me at (402) 343-2619 or by email at mhansen@westside66.org or my faculty advisor Dr. Debra Ponec at (402) 280-2557 or by email at dponec@creighton.edu.

Termination of Participation

Participation in this research study will be voluntary and as such there will be no negative impact if you should choose to withdraw from the study at any point. Furthermore, your participation may be terminated if the number of attempts to schedule an interview exceeds three.

Signature Clause

You do not have to be in this study. You can stop being in the study at any time and no one will be mad at you. If you decide not to be in this study, you will continue to receive educational instruction from your teachers.

My signature below indicates that all of my questions have been answered. I agree to participate in the project as described above.

Signature of Adolescent

Date Signed

Name of Adolescent (Print) Date of Birth

Name(s) of Parent(s)/Legal Guardian Relationship to Child

A copy of this form has been given to me. _____ Subject's Initials

For the Research Investigator--- I have discussed with this subject the procedure(s) described above and the risks involved; I believe he/she understands the contents of the assent document.

Investigator's Signature Date Signed _____

We would appreciate your feedback on your experience as a research participant at Creighton University; please fill out our survey at <http://www.creighton.edu/participantsurvey>

Appendix F: Research Participant Bill of Rights

Bill of Rights for Research Participants

As a participant in a research study, you have the right:

1. To have enough time to decide whether or not to be in the research study, and to make that decision without any pressure from the people who are conducting the research.
2. To refuse to be in the study at all, or stop participating at any time after you begin the study.
3. To be told what the study is trying to find out, what will happen to you, and what you will be asked to do if you are in the study.
4. To be told about the reasonable foreseeable risks of being in the study.
5. To be told about the possible benefits of being in the study.
6. To be told whether there are any costs associated with being in the study and whether you will be compensated for participating in the study.
7. To be told who will have access to information collected about you and how your confidentiality will be protected.
8. To be told whom to contact with questions about the research, about research – related injury, and about your rights as a research subject.
9. If the study involves treatment or therapy”
 - a. To be told about the other non-research treatment choices you have.
 - b. To be told where treatment is available should you have a research-related injury, and who will pay for research-related treatment.

Appendix G: Transcription Confidentiality Disclosure Agreement

Transcription Confidential Disclosure Agreement

This Agreement is entered into this 28th day of April 2014 by and between Glenda Hinz (hereinafter "Recipient") and Melissa Hansen (hereinafter "Discloser").

WHEREAS Discloser possesses certain ideas and information relating to participants interviews for the research of the dissertation titled Bridging the Gap in Workforce Readiness through Secondary Education that is confidential and proprietary to Discloser (hereinafter "Confidential Information"); and

WHEREAS the Recipient is willing to receive disclosure of the Confidential Information pursuant to the terms of this Agreement for the purpose of transcribing digital recordings of participants interviews.

NOW THEREFORE, in consideration for the mutual undertakings of the Discloser and the Recipient under this Agreement, the parties agree as follows:

1. **Disclosure.** Discloser agrees to disclose, and Recipient agrees to receive the Confidential Information.
2. **Confidentiality.**
 - 2.1 **No Use.** Recipient agrees not to use the Confidential Information in any way, or to manufacture or test any product embodying Confidential Information, except for the purpose set forth above.
 - 2.2 **No Disclosure.** Recipient agrees to use its best efforts to prevent and protect the Confidential Information, or any part thereof, from disclosure to any person other than Recipient's employees having a need for disclosure in connection with Recipient's authorized use of the Confidential Information.
 - 2.3 **Protection of Secrecy.** Recipient agrees to take all steps reasonably necessary to protect the secrecy of the Confidential Information, and to prevent the Confidential Information from falling into the public domain or into the possession of unauthorized persons.
3. **Limits on Confidential Information.** Confidential Information shall not be deemed proprietary and the Recipient shall have no obligation with respect to such information.
4. **Ownership of Confidential Information.** Recipient agrees that all Confidential Information shall remain the property of Discloser, and that Discloser may use such Confidential Information for any purpose without obligation to Recipient. Nothing contained herein shall be construed as granting or implying any transfer of rights to Recipient in the Confidential Information, or any patents or other intellectual property protecting or relating to the Confidential Information.
5. **Term and Termination.** The obligations of this Agreement shall be continuing until the Confidential Information disclosed to Recipient is no longer confidential.
6. **Survival of Rights and Obligations.** This Agreement shall be binding upon, inure to the benefit of, and be enforceable by (a) Discloser, its successors, and assigns; and (b) Recipient, its successors and assigns.

IN WITNESS WHEREOF, the parties have executed this agreement effective as of the date first written above.

DISCLOSER: Melissa Hansen

RECIPIENT Glenda Hinz

Signed: Melissa Hansen

Signed: Glenda Hinz

Print Name: Melissa Hansen

Print Name: Glenda Hinz

Title: Graduate Student

Title: Owner, HINZtime

Date: 4/28/14

Date: April 28, 2014

Appendix H: IRB Letter of Approval



March 31, 2014

Melissa Hansen, MS, BS
Graduate School
Leadership Program

RE:
IRB #: 14-17011
TITLE: Bridging the Gap in Workforce Readiness through Secondary Education

Dear Ms. Hansen,

The IRB office has received the following documents:

1. Application for Response to IRB Requests signed March 30, 2014
2. Revised Parental Permission Form
3. The submitted Assent Form

The changes to the assent and permission form satisfy the concerns of the Board as expressed in their letter to you dated March 25, 2014. This project is now fully approved. The Board considered that the risk to subjects enrolled in this project was minimal. The period of approval will be for twelve months. The Parental Permission and Assent Forms submitted are stamped dated March 31, 2014. Only copies of these stamped dated documents may be used when enrolling subjects in this project.

This approval includes the following:

1. The Application for Initial IRB review IRB Social Behavioral 02 signed March 13, 2014
2. Attachment A "Expedited Review Category as per 45 CFR 46.110 (#9)
3. Attachment B "Research Involving Children"
4. Letter of Agreement dated March 10, 2014
5. The submitted Protocol dated March 10, 2014
6. Appendix A: Interview Questions
7. Appendix B: Invitation to Participate in Study
8. Appendix C: Parental Permission Form
9. The submitted Assent Form

Continued approval is conditional upon your compliance with the following requirements:

Human Research Protection Program - IRB Office • 2500 California Plaza • Omaha, Nebraska 68178
phone: 402.280.2126 • fax: 402.280.4766 • Email: IRB@Creighton.edu or go to www.creighton.edu/researchcompliance/irb

IRB # 14-17011

2 of 2

March 31, 2014

1. Compliance with all federal and state laws pertaining to this research and with the Creighton University IRB policies and procedures as found on the IRB web site
2. Problems must be reported using the Reporting Form for Reportable New Information. Problems requiring report can be found in the IRB Policy 134 "Reportable New Information"
3. All protocol amendments and changes to approved research must be submitted to the IRB and not be implemented until approved by the IRB, except where necessary to eliminate apparent immediate hazards to the study subjects. Please use the Request for Modification for Approved Research form when submitting any change to the protocol
4. Advertisements, letters, internet postings, any other media for subject recruitment, and information given to subjects for use in this study require approval before posting or distribution. Please use the Request for Review of Supplemental Documents form when requesting review for supplemental documents
5. This study cannot continue after the expiration date, which is March 30, 2015. You are required to submit a renewal/termination prior to this date. If you wish to continue the project, the renewal must be in the IRB office two weeks prior to a scheduled meeting prior to the expiration date. See schedule of meetings on the IRB web site.

If you should have questions during the course of this project, please call the IRB office at (402) 280-2126 and one of the administrators will assist you, or you may email the office at irb@creighton.edu.

Sincerely,



Amy Badura Brack, Ph.D.
Chair, Institutional Review Board



The Creighton University is fully accredited by the Association for the Accreditation of Human Research Protections Program, Inc. @ (AAHRPP)

Creighton University has an Assurance on file with the Department of Health and Human Services: Assurance Identification No. FWA 00001078, the expiration date: July 6, 2016
IRB Registration Numbers: IRB #1Biomedical IRB # IRB00000155 (Expiration July 13, 2015); IRB #2 Social Behavioral IRB # TIRB20067 (Expiration July 13, 2015)

Creighton University has an Assurance on file with the Food and Drug Administration (FDA)
Assurance Identification No. FWA00001078, the expiration date July 6, 2016
IRB Registration Numbers: Registration/Identification No. IRB00000155



March 25, 2014

Melissa Hansen, MS, BS
Graduate School
Leadership Program

RE:

IRB #: 14-17011

TITLE: Bridging the Gap in Workforce Readiness through Secondary Education

Dear Ms, Hansen,

Thank you for sending the above project to the Institutional Review Board Office. This project was reviewed using the expedited process, in which two or more IRB members review the protocol and attachments and make recommendations as to approval and/or modification.

The reviewers for the above project have recommended that this project be approved pending the following modification:

1. Please use Creighton University IRB template for your Permission Form
2. Please submit a separate assent form also in our template
3. Please make it known in the "Disclosure of Appropriate Alternatives" section of the assent and permission that participation is voluntary and that there will be no negative impact on them for not participating.
4. Include in the assent and permission ways coercion will be minimized.

The Board reviewers considered that the risk to subjects enrolled in this project is minimal. The period of approval will be 12 months.

The following documents were received, reviewed and will be approved when all conditions are met as noted above:

1. The Application for Initial IRB review IRB Social Behavioral 02 signed March 13, 2014
2. Attachment A "Expedited Review Category as per 45 CFR 46.110 (#9)
3. Attachment B "Research Involving Children"
4. Letter of Agreement dated March 10, 2014

IRB #: 14-17011

Page 2 of 2

March 25, 2014

5. The submitted Protocol dated March 10, 2014
6. Appendix A: Interview Questions
7. Appendix B: Invitation to Participate in Study
8. Appendix C: Parental Permission Form (pending modifications)

Upon resolution of the Board's concerns, IRB approval will be issued.

When submitting the required changes to the Board, please use the Application for Response to IRB Requests.

If you should have questions during the course of this project, please call the IRB office at (402) 280-2126 and one of the administrators will assist you, or you may email the office at irb@creighton.edu.

Sincerely,



Amy Badura Brack, Ph.D.
Chair, Institutional Review Board

Appendix I: Qualitative Analysis Coding Phases & Themes

Initial Coding

- Skills
 - Communication
 - Teamwork
 - Problem Solving
- Environment
 - Educational
 - Non-Educational
- Proficiencies
- Transference Factors
- Insights for Employers
- High School Preparation for Workforce

Axial Coding

- Depth of Skill
(Complexity ~ Degree of Intensity ~ Thoroughness)
 - Definition/Attributes
 - Teamwork – (End product, Humanistic process)
 - Communication – (Form, Audience, Purpose)
 - Problem-Solving – (Self vs Others, Limited Data)
 - Development
 - Naturally Happens
 - Frequency of Cited Examples
 - Evaluation
 - Product vs Process/Performance
 - Teacher vs Employer
- Breadth of Skill
(Scope ~ Range of Understanding ~ Knowledge of Variety)
 - Purpose
 - Transference
 - Relevance
 - Relational Audience
 - Environment
 - Audience
 - Engagement Opportunities
 - Variety
 - Experiences
 - Environment
- Humanistic Elements

Selective Coding

- Depth and Breadth of Skill Development and Practice
 - Communication
 - Forms of Communication
 - Intended Audience
 - Purpose
 - Teamwork
 - Process of Teamwork
 - Group Dynamics
 - Interpersonal skills
 - Problem Solving
- Pedagogy Associated with Skill Development
 - Lesson Delivery
 - Level of Thinking
 - Contextual Learning
 - Assessment
 - Transference
- Participant Recommendations
 - Education Professionals
 - Employers

Appendix J: Graphic Representation of Theory

