How Do Educational Leaders Understand Career Readiness: A Q-methodological Study

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Sarah A. Lopienski
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This dissertation titled

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by

SARAH A. LOPIENSKI

has been approved for

the Department of Educational Studies

and The Patton College of Education by

Dwan V. Robinson

Assistant Professor of Educational Studies

Renée A. Middleton

Dean, The Patton College of Education
Abstract

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How Do Educational Leaders Understand Career Readiness: A Q-methodological Study

Director of Dissertation: Dwan V. Robinson

The journey to understanding career readiness has never been more difficult for today’s Kindergarten through grade 12 (K-12) educational leaders. In this study, data was analyzed using Q-methodology which discovered three factors holding five interpretable viewpoints. K-12 educational leaders not only presented an understanding about career readiness as developing the appropriate knowledge, skills and abilities to compete in the 21st century global economy, but also identified with aspects of vocational psychology’s perspective of career including self-awareness, making meaning in one’s life, and having a drive and desire to succeed. Data interpretation and analysis emphasized the need for K-12 educational leaders to re-create K-12 school culture by developing students who are employable while strategically positioning each student’s unique life stories to find purpose and meaning in life.
Dedication

Thank you to the following individuals who have had such a tremendous impact on my life and inspired me to never give up on this work:

My mom, Laurie Lopienski: Thank you for always being my rock and inspiration for completing my dissertation. Thank you for always being there to support me.

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and

To students everywhere:

“Never, never, never give up” ~ Winston Churchill
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Chapter 1: Introduction

Personal Background

This dissertation focuses on how Kindergarten through grade 12 (K-12) educational leaders understand the idea of career readiness. The background for my dissertation choice is based on my personal experience as a K-12 school counselor and educational consultant in Ohio and confusion experienced by educational leaders when implementing college and career readiness cultures in their schools.

Theoretical Background

The changing demands of the global economy has provided the U.S. Department of Education (U.S. DOE) with an opportunity to update the Elementary and Secondary Education Act (ESEA) of 1965 in which “every student should graduate from high school ready for college and career regardless of their income, race, ethnicity, or disability status” (U.S. DOE, 2013, p. 3). Arising from this change is a new educational agenda focused on increasing the college and career readiness of all K-12 students (Council of Chief State School Officers, 2012). Policy creators and their local communities have contemplated what college and career readiness looks like for students about to graduate from high school (Conley, 2010). While much of the focus has been on helping students enter college without needing remediation, increasing college readiness appears to be only part of the solution (Career Readiness Partner Council, 2012; Conley, 2010).

Researchers have stated any economic situation impacts the fields of education and psychology (Bluestein, 1994; Maree, 2013; Savickas & Porfeli, 2012). Researchers also note an individual’s career identity can be reflexive of the economy (Lapan, 2004;
Savickas, 2005) potentially influencing K-12 schools to adequately prepare students for the future challenges they may face on their way into adulthood (Conley, 2010). Career adaptability and life-long learning are a major focus in vocational psychology where individuals reflect upon their life stories using dialogue to construct new stories (Maree, 2013; Savickas & Porfeli, 2012). The construction of career identities created by stories suggests individuals may select certain careers based upon their personal motivation in life (Brott, 2001; Carstensen, Isaacowitz, & Charles, 1999; Latham & Wexley, 1994).

As the economy changes, so does business and organizations (Latham & Wexley, 1994). Employers monitor employees through performance appraisals from which employee short and long term career goals are planned and implemented (Latham & Wexley, 1994). Employers identify employee goals and provide feedback to increase employee performance (Latham & Wexley, 1994). Successful employee performance is essential for an organization to survive economically and influences overall employee work productivity (Latham & Wexley, 1994). Poor employee performance costs an organization millions if employees come late to work, stop work early, or perform work incorrectly (Latham & Wexley, 1994). Although employers try to change poor employee performance using feedback, a majority of employee productivity is driven through personal motivation (Latham & Wexley, 1994).

Savickas and Porfeli (2012) found late adolescence as an opportunity to enhance individual motivation towards career planning, exploration, decision-making, and career satisfaction. Savickas (2005) speculated turbulence in adolescence could potentially
impact future personal motivation. K-12 schools are in a powerful position help students with their educational efforts focused on college and career readiness (Conley, 2010).

**Connecting the Dots**

Domestic and international competition affects practically every organization in the world (Latham & Wexley, 2004). Competition heavily impacts business by forcing them to reduce inefficiency to improve profits (Gatewood, Field, & Barrick, 2010). To combat inefficiency, businesses recruit for skilled employees using a high quality selection process (Gatewood et al., 2010). K-12 students preparing to enter the workforce or post-secondary education upon graduation from high school benefit greatly by having the knowledge, skills, and other attributes attractive to domestic and international organizations (Gatewood et al., 2010). The definition of college ready in K-12 education has been explored with specificity (CCSS, 2012; PARCC, 2013) while the understanding of career ready is still being explored.

Some researchers consider career as a construct altogether different from college as career emphasizes the total person (Conley, 2010; Gysbers, 2013; Super, 1984; Savickas, 2005). From a vocational psychology lens, career ready individuals might be considered “proactive, resilient, have an adaptive style of interacting in the present, and assertively move towards a self-defined career future that adds meaning, purpose, and satisfaction to their lives” (Gysbers & Lapan, 2009, p. 23). K-12 students can begin career readiness preparation as early as elementary school and continue until they are ready to graduate from high school (Gysbers, 2013). Yet, curiosity remains about what K-12 students need to become career ready upon graduation from high school and many
researchers suggest looking at the definition of college readiness (Conley, 2010; PARCC, 2013).

**College readiness.** A variety of standards have been proposed in K-12 education to measure college readiness (Conley, 2010; Partnership for Assessment of Readiness for College and Careers, 2013). The Partnership for Assessment of College Readiness and Career (PARCC, 2013) developed a state consortium and developed English and math assessments stemming from the Common Core State Standards (CCSS, 2010). PARCC created end of course exams to measure college and career readiness in grades 9 through 12 focusing on student successive completion of high school courses ultimately resulting in an industry credential, certificate, or college degree, taking college credit courses without remediation, passing grades in college courses taken freshman year (i.e. College Algebra, Freshman Composition), and improved college grade point averages (GPA) (PARCC, 2013).

Prior to the PARCC end of course exams, ACT (2013) began developing college and career ready curriculum called the ACT QualityCore (ACT, 2013). The ACT QualityCore (ACT, 2013) measures students in grades 7-12 respective to college and career readiness upon graduation from high school. Schools aligning their 7-12 educational curriculum to the ACT QualityCore increased student proficiency related to college and career readiness in Algebra 1, Geometry, Algebra 2, English 9, English 10, English 11, Biology, Chemistry, and Physics (ACT, 2013). ACT (2013) found highly performing schools focused specifically on these college and career ready course standards along with formative assessments to guide classroom instruction and student
academic intervention; thus increasing 7-12 student achievement and progress with respect to college and career readiness (ACT). ACT (2013) also created end-of-course exams (EOCE) to measure college and career readiness and also provide 7-12 students with an opportunity to ensure college and career readiness upon graduation from high school.

Yet, the term career is frequently interchanged with college (ACT, 2013; Conley, 2010) and appears in need of a clearer definition so K-12 educational leaders can guide students in the most effective manner towards college and career readiness. In K-12 education, career readiness is considered a pathway requiring some type of post-secondary training or education similar to college readiness (Achieve, 2012). A high school diploma is no longer adequate to ensure career advancement upon graduation ( Achieve, 2012). The understanding of career readiness in K-12 education appears to focus on the mastery of core academic and technical skills in order to succeed after graduating high school (Achieve, 2012). However, is career readiness the same as college readiness?

**Career readiness.** In an analysis of the different state perspectives about career readiness, most appear to use a combination of ideas proposed by ACT WorkKeys (2013), Association for College and Technical Education (ACTE, 2013), and/or David Conley’s Four Keys to College and Career Readiness, which consequently is also the driving force behind the PARCC college and career ready benchmarks (CEP, 2013; Conley, 2010). Each of these models provides extensive information on how to potentially measure the construct of career readiness from a K-12 educational
perspective. Yet, conversations are being held simultaneously in the field of vocational psychology about career development. A question arises asking why K-12 education and vocational psychology are not conversing about these perspectives with respect to the idea of K-12 student career readiness.

**Rationale for the Study**

As 21st century students graduate from high school, they begin on a life journey where few will remain in a single job for their entire life (Savickas & Porfeli, 2012; Watts, 2006). Job prospects are less certain and job transitions frequent (Savickas & Porfeli, 2012). A large gap exists between K-12 education and economic perspectives about what individual knowledge and skills are needed for future success (Dahir, Sheldon, & Valiga, 1998). Continuous movement between jobs has become an accepted societal norm (Savickas & Porfeli, 2012). By the time a person reaches the age of 28 or 29, she or he has had a minimum of ten jobs (Savickas & Porfeli, 2012). Short-term contractual employment as opposed to the traditional life-time employment has arrived so quickly that K-12 schools find themselves walking on eggshells to prepare students for these new work situations (Arthur & Rousseau, 1996; Savickas & Porfeli, 2012). These new economic situations have forced individuals to adapt quickly by focusing their attention on getting such short-term agreements with organizations (Arthur & Rousseau, 1996).

Organizations no longer guarantee lifelong employment to personnel which eventually forces away staff loyalty (Fenwick, 2004). Employee beliefs about work focus on personal values and self-dependence rather than organizational dependence for
guidance and assistance with individual success (Fenwick, 2004). Given employee personal motivations to direct their own career pathways, organizations turn to human capital efforts in making sure they are staffing the appropriate individuals for optimal organizational performance (Latham & Wexley, 1994). K-12 education plays a pivotal role in preparing students for this changing economic environment through the viewpoint of college and career readiness (Conley, 2010; Latham & Wexley, 1994).

Research on how K-12 educational leaders understand career readiness appears to be as rare a clear definition of career readiness itself (Achieve, 2004; Achieve, 2012). In 2003, the Standards for Success Project interviewed around four hundred U.S. university faculty members to clarify standards for readiness to succeed in entry-level college courses. In 2004, The American Diploma Project gathered information from post-secondary faculty and individuals of the business community to create standards defining college and career readiness (Achieve, 2004). While the two projects overlapped on many levels pertaining to college and career readiness, they were not identical (Conley, 2010). ACT (2011) researchers also cross-referenced ACT’s job skills assessment system and college readiness standards and found requirements for both college and career were highly similar. Conley (2010) reviewed ACT’s (2011) findings and presented four keys ideas related to college and career readiness focusing on “cognitive, content knowledge, learning skills and techniques, and transition knowledge and skills” (p. 5). College and career readiness was used interchangeably with the exception of learning skills which impacts career readiness in terms of resources and support for learning such career skills (Conley, 2010). Research has primarily focused on the
academic content knowledge needed for college readiness and skills as related to career readiness (ACT, 2011; Achieve, 2004; Conley, 2010; Latham & Wexley, 1994).

Theoretical Framework

A conversation about career development has been ongoing for years in the field of vocational psychology. Many of the key theories with respect to career development provide useful information to assist K-12 educational leaders more clearly understand the complex construct of career. The current K-12 educational research on career readiness combines college with career readiness (ACT, 2013; PARCC, 2012). In K-12 education, career readiness is presented as a trait and factor approach using assessments such as ACT WorkKeys (2013), definitions proposed by ACTE (2013) or Conley’s four dimensions of college and career readiness (Conley, 2010; Somerville & Yi, 2002). Yet, vocational psychologists Donald Super (1984) and Mark Savickas (2005) view life not grounded in job-related roles.

Two vocational psychology theories are presented to provide structure to the current perspective of career readiness in K-12 education. The theory of career construction theory (Savickas, 2005) focuses on career adaptability while social cognitive career theory (Lent, Brown, & Hackett, 2002) lends a branch to the lens of self-efficacy and outcome expectations with respect to career. Both of these aspects promote career as embedded in an individual’s life-span development which supports K-12 education’s focus to help students become lifelong learners (Achieve, 2004; CCSS, 2012; Herr, Cramer, & Niles, 2004; Parsons, 1909; Super, 1957).
**Theory of career construction.** The theory of career construction helps structure K-12 educational leader perceptions about career related to career development, moving through career transitions, and overcoming individual trauma (Savickas, 2005). Developing coping strategies builds career adaptability as defined by having a concern, control, curiosity, and confidence about one’s future career. Career construction holistically incorporates personality, adaptability, and individual life themes (Savickas, 2005). The theory of career construction provides K-12 educational leaders with a reliable structure of career as the theory draws upon vocational personality (Holland, 1997), life span development (Super, 1984), and self-completion from individual psychology (Savickas, 2005).

**Social cognitive career theory.** Lent et al.’s (2002) social cognitive career theory provides aspects of self-efficacy and career outcomes to K-12 educational leader perspectives when viewing career readiness. SCCT has evolved as a new career theory to illuminate why certain types of work are interesting to some people, how people might set goals, and persist when the going gets tough in the work environment. This information may be helpful to K-12 educational leaders as they assist their students in becoming career ready upon graduation from high school. Bandura’s (1986) social cognitive theory prefaced Lent et al.’s (2002) social cognitive career theory by providing a blueprint to help individuals find interest in certain careers, choose educational or career pathways, and persevere in school or work. Bluestein (1999) supports SCCT as an important theoretical view emphasizing self-efficacy as key in explaining individual career development. Lent et al.’s (2002) successfully incorporated SCCT with individual
work fit (Dawis & Lofquist, 1984), individual interests (Holland, 1985), social learning (Krumboltz, Mitchell, & Jones, 1976), life-span development (Super, 1990), and theory of development (Vondracek, Lerner, & Schulenberg, 1986). In SCCT, career interests are regulated by self-efficacy and outcome expectation. That is, when people form lasting interests in their activities they experience personal achievement and positive outcomes (Lent et al., 2002). In K-12 education, students benefit from having exposure to career activities that develop self-efficacy and create positive outcomes. K-12 educational leaders have the potential to help students develop self-efficacy and create positive outcomes from career readiness activities to increase a student’s options and success upon graduation (Gibbons & Shoffner, 2000).

**Methodology and Research Question**

Q-methodology (QM) was developed by Dr. William Stephenson, both a psychologist and physicist in the early 19th century, who challenged the objective field of psychology using an epistemological and mathematical approach close to quantum mechanics (Brown, 1980). QM was created to study human subjectivity specifically focusing on self-reference (Brown, 1980). QM provides an opportunity to explore, both quantitatively and qualitatively, group views as well as how many individuals in a group hold these views (Brown, 1980).

In this study, QM was selected as an appropriate research methodology to understand the subjective viewpoints and perspectives of K-12 educational leaders when it comes to career readiness. QM provides a rigorous method both quantitatively and qualitatively to examine individual subjectivity (Brown, 1980; Watts & Stenner, 2012).
K-12 educational leader participants were identified as any educational leader in a K-12 setting impacting college and career readiness of students, including superintendents, principals, teacher leaders, school counselors, administrators (i.e. curriculum directors), career technical education administrators and teachers, as well as K-12 educational consultants. Participants self-identified as educational leaders and volunteered for the study from masters or doctoral level courses in Educational Administration or Educational Studies or non-profit educational organizations. Approximately twenty-four educational leaders participated. Participants were presented with a set of statements capturing the current environment of K-12 education’s career readiness and vocational psychology’s career development theories (Brown, 1980; Watts & Stenner, 2012). From these statements, participants were asked to sort the items on how they understood career readiness using a normalized distribution grid (see Figure 1; Brown, 1980; Watts & Stenner, 2012).

In order to measure subjectivity, QM combines the process of sorting with pattern analysis using correlation and factor analysis (Brown, 1980; Watts & Stenner, 2012). When the sorts are complete, they are then analyzed by PQMethod software (Schmolck, 2002) where correlations, factor loadings, factor analysis, and the calculation of factor scores are provided for factor interpretation. High factor loadings provide an understanding of which sorts are more highly correlated with a particular factor view (Watts & Stenner, 2012). Sorts with similar perspectives are highly correlated with the same factor (Brown, 1980).
Stephenson (1953) and Brown (1980) recommended using centroid factor extraction with a hand rotation since the participants generating the sorts have influence in K-12 education specifically related to college and career readiness (Watts & Stenner, 2012). Further, a centroid extraction with a hand rotation allows for a more accurate picture of a particular situation (Watts & Stenne, 2012). Several programs can be used to analyze the data, but PQMethod software is the most commonly used and available for free (Brown, 1980; Schmolck, 2002).

In this study, QM is used to understand why participants believe what they do about career readiness, not how many participants subscribe to this view (Watts & Stenner, 2012). In R-methodology, viewpoints are considered external where specific person-sampling procedures and large sample sizes are needed to control for measurement error (Brown, 1980). However in QM, viewpoints are captured in the form of Q sorts where there is no comparable benchmark for a participant’s own point of view (Brown, 1980). Further, Thomas and Bass (1994) note when Q-studies are carried out in closely related participant groups similar factors tend to appear.

Moving forward, QM looks at each Q-sort association in relation to other Q sorts to produce factor loadings (McKeown & Thomas, 1988). Usually only the first two or three factors are significant and researchers can use factor rotations to look at any hypotheses they might have (Brown, 1980; McKeown & Thomas, 1988). Stephenson (1953) notes QM is a holistic process different from by-variable or item methods. The factor arrays provided by PQMethod software (Schmolck, 2002) for data interpretation
emphasizes the importance of this holistic approach trying to capture the whole viewpoint passing by in the data.

The theory of abduction guides QM by trying to explain these new insights (Watts & Stenner, 2012). Different from deduction where logic is top to bottom, abduction encourages researchers to study facts and develop a theory to help explain them (Watts & Stenner, 2012). Centroid factor analysis with a hand rotation provides the best opportunity to engage abduction by allowing the researcher to explore any notions or prior knowledge and study patterns in the data to develop a theory about what he or she might be seeing in the data (Brown, 1980; Stephenson, 1953; Watts & Stenner, 2012). In QM, people, not numbers, are factored to provide an understanding of what is most important to K-12 educational leaders regarding career readiness; or otherwise known as self-reference (Brown, 1980; McKeown & Thomas, 1988).

The main focus of this dissertation is to pursue an explanation about how educational leaders understand career readiness based on the current conversations with respect to K-12 college and career readiness. The main research question guiding this exploratory study is: How do educational leaders understand career readiness? To answer this question, the researcher will acquire deep knowledge about what possible views exist for K-12 educational leaders about career readiness. Career readiness in this dissertation focuses on the fields of K-12 education and vocational psychology in conjunction with K-12 educational leaders perspectives related to the concept.
Assumptions and Limitations of This Study

Several assumptions and limitations arose from this study. First, it is assumed K-12 educational leaders participating in this study believe career readiness is important in K-12 education. Another assumption is participants also believe K-12 education has different views of the current definition of career readiness.

With respect to limitations, the researcher did not choose to study K-12 educational leaders from one particular area (i.e. only principals or only superintendents). Instead, the researcher considered all the K-12 educational leaders having an impact on student college and career readiness to be included in this study. Participants volunteering for the study ranged from superintendents to principals to teacher leaders to school counselors to curriculum directors to career technical teachers leaders or administrators to even K-12 educational consultants assisting schools to implement college and career readiness in schools. Further, the views gathered from this study cannot be generalizable to the larger K-12 educational leader population. Rather the views are generalizable back to the concourse or items representative of the relevant population of opinion (Brown, 1980). In summary, the topic of how educational leaders understand career readiness is diversely explored with just a small sample of participants.

Definition of Operational Terms

Career Adaptability: Readiness to cope with possible career tasks and transitions;
Subthemes include optimism, openness to exploring, sense of control, confidence in future (Savickas, 2005).

Career Construction: World of work is created through individual and societal viewpoints, career is created by representations of reality (Savickas, 2005). Adapting to one’s environment by constructing their own reality viewing career as a social interaction and negotiation of meaning (Savickas, 2005). Adaptability and flexibility are central in making career decisions (Savickas, 2005).

Career Readiness: Achievement of skills in applied mathematics, reading for information, location information, applied technology, business writing, workplace observation, listening for understanding, fit, performance, talent, general work beliefs; carefulness, cooperation, creativity, discipline, goodwill, influence, optimism, order, savviness, sociability, stability, and striving for career goals (ACT WorkKeys, 2013, p. 1); academic, employability, and technical skills (ACTE, 2013, p. 2).

Career Self-Management: Overarching graduate attribute; fulfilling individual career aspirations, learning, and employability (King, 2004). Includes positive self-concept, using career information, making effective career decisions (King, 2004).

College and Career Readiness: “Ability to qualify for and succeed in entry-level, credit bearing college courses leading to a bachelor’s degree or certificate, or career pathway-oriented training without need for remediation” (Conley, 2010, p.1). Includes four key dimensions of “cognitive strategies, content knowledge, transition knowledge and skills, and learning skills and techniques” (Conley, 2010, p. 5).
Concourse: Possible Q items assembled during literature examination or other credible sources (Brown, 1993).


Employability: Gauge for number of graduates entering the workforce and educational institutions graduating students ready for the workforce (Precision Consultancy for the Business Industry Higher Education Collaboration Council, 2007).


Graduate Attributes: Outcomes of curriculum and learning (i.e. problem-solving, communication, team work, self-management) (Bath, Smith, Stein, & Swann, 2004; Rees, Forbes, & Kubler, 2006).

Human Capital: Education, training, and professional experiences through social capital (Fugate et al., 2004).

Personal Adaptability: Hopefulness that enables individuals to confront and participate in learning, being open to experiences, flexibility; individual self-regulation (Fugate et al., 2004).

Social Capital: An individual’s personal networks as well as access to information and resources (Fugate et al., 2004).
Social Cognitive Career Theory: Career interests are regulated by self-efficacy and outcome expectation (Lent, Brown & Hackett, 2006). Individuals form lasting interests in activities and experience personal achievement or competency as well as positive outcome (Lent, Brown, & Hackett, 2002).

Q-Methodology: Experimental research method used to discover and explore patterns of shared viewpoints, attitudes, beliefs, opinions, and other subjective aspects of social life with respect to high school student career readiness (Shemmings, 2006).

Q-Sort: Display of Q-items rank ordered by each individual in QM study (Brown, 1993).
Chapter 2: Review of Literature

Introduction

The following literature review intends to investigate how educational leaders understand career readiness as currently presented in K-12 educational literature (ACT, 2013; ACTE, 2013; Conley, 2010) while including aspects from vocational psychology’s theory of career construction (CCT; Savickas, 2005) and social cognitive career theory (Lent et al., 2002). The literature review will investigate the evolution of college and career readiness in K-12 education and empirically accepted theories of career construction and social cognitive career from the field of vocational psychology related to career development. The literature review will build a case that K-12 educational leaders may understand career readiness as currently presented in K-12 educational literature (ACT, 2013; ACTE, 2013; Conley, 2010) but also leave footprints of vocational psychology’s career construction and social cognitive career theories. Aspects from the fields of K-12 education and vocational psychology related to career readiness and career development will be presented to K-12 educational leaders for sorting using Q Methodology (Brown, 1993) later presented in Chapter 3.

Background

As students graduate from high school, they embark on a career journey where few will have just one job for all of their life (Savickas & Porfeli, 2012; Watts, 2006). Job forecasts are unpredictable and work transitions are frequent and multifaceted (Savickas & Porfeli, 2012). K-12 students benefit from learning how to adapt to future career opportunities and become flexible in order to become successful (Savickas &
Porfeli, 2012). A research gap has occurred between training opportunities at high school or college and the skills needed to carry out a job successfully (Dahir et al., 1998). Individuals change jobs so frequently today that by their mid-thirties, they will already have had around twelve different jobs (Dawson, 2013).

The continuous movement between and among jobs has become an accepted societal norm. Short-term contracts with organizations are occurring so rapidly that educational leaders must prepare K-12 students for the future of contractual work opportunities (Arthur & Rousseau, 1996; Savickas, 2005). The ability to become adaptive and reflexive to any potential career transitions creates success as individuals move from traditional contract agreements with potential employers to independent consulting positions with multiple employers (Arthur & Rousseau, 1996). Arthur and Rosseau (1996) view this movement as physical mobility or moving physically between jobs, as opposed to psychological mobility or moving a job context within one’s mind.

As employers no longer guarantee lifelong employment, employees no longer feel loyal to their employer (Fenwick, 2004). Attitudes about employment focus on a vested personal interest and dependence on oneself as opposed to dependence on the employer to help with career progression (Fenwick, 2004). Employees now guide themselves by their own personal values and interests while employers focus on human capital efforts, particularly staffing and talent management, to keep the best people employed (Latham & Wexley, 1994).

As employers search and retain the best talent, a growing number of unskilled or inappropriately skilled employees exists (U.S. DOE, 2013). Given the way the U.S.
economy is structured, an individual’s career identity is reflexive of the economic environment (Savickas, 2005). Vocational psychologist Mark Savickas maintains a stable career identity demonstrates a clear and stable identity with work. In order to successfully obtain employment in today’s world, K-12 educational leaders must adequately prepare students for the career challenges they will face as they make their way into adulthood (Gysbers, 2004; Lapan, 2004).

**K-12 Education: Overview of Career Readiness**

U.S. education has been reforming for over a decade in order to continue being competitive in the global economy (Hershberg & Robertson-Kraft, 2009; National Center on Education and The Economy, 2007; No Child Left Behind, 2001; Zhao, 2009). *A Nation at Risk* (National Commission on Excellence in Education, 1983) ignited a fire focused on educational reform and quality in U.S. K-12 education. Yet, research still found U.S. students falling behind their global peers academically (NCES, 2007; TIMMS, 2011). Focus was then aimed at improving graduation rates, increasing mathematics and science competency skills, and acquiring problem-solving skills to ultimately increase college and career readiness (NCES, 2007; TIMMS, 2011). Yet despite an enormous financial investment to improve education, U.S. public schools continued to underserve many students (Hershberg & Robertson-Kraft, 2009).

No Child Left Behind (NCLB, 2001) was passed into law to ensure every K-12 student received a good U.S. education. NCLB (2001) defined achievement benchmarks focused on core academic content areas of mathematics, reading, and science (ODE, 2013). NCLB (2001) required all students in grades 3-8, regardless of race, sex, or
ethnicity, be assessed in reading, science, and mathematics. In the state of Ohio, grade 3-8 students took the Ohio Achievement Assessment (OAA; ODE, 2013) to determine if they were proficient in mathematics, reading, and science. If students did not meet these standards, then their schools were given low (Adequate Yearly Progress) scores and considered not satisfactory in providing a good education to their students (ODE, 2013). Schools with proficient students were considered excellent or excellent with distinction (ODE, 2013). Schools with significant proficiency increases were rewarded and honored (ODE, 2013; Zhao, 2009). Although NCLB (2001) did not specifically focus on grades 9-12, some states required grade 10 and 12 testing in reading and mathematics. For example, the state of Ohio administers the Ohio Graduation Test (OGT) to determine if grade 10 students met the graduation standards needed to graduate from high school (ODE, 2013).

Yet, given all the effort of these massive educational reforms, several student groups did not see increases in their achievement gaps (Zhao, 2009). The 2003 National Center for Education Statistics found around forty percent of White students scored proficient or higher in 4th grade reading as compared to twelve percent of African-American students and fourteen percent of Hispanic students (NCES, 2003, p. 58). In math, forty-two percent of White students in grade 4 scored proficient compared to only ten percent of African-American students and fifteen percent of Hispanic students (NCES, 2003, p 60).

In high school, comparable statistics exist for drop out recovery and graduation rates. The National Center for Education Statistics (Snyder, Dillow, & Hoffman, 2009)
found dropout rates for White, African-American, and Hispanic students at approximately six, eleven, and twenty-two percent. Snyder et al. (2009) reported even lower graduation rates for Whites, African-American, and Hispanics at seventy-six, fifty-eight, and fifty-three percent. In large urban areas such as Cleveland (OH), only fifty-two percent of students graduated with a high school diploma; well below the national average of seventy percent (Snyder et al., 2009).

Among U.S. and global students the achievement gap is even worse (Zhao, 2009). Reviewing test scores on international assessments, such as the Trends in Mathematics and Science Study (TIMMS), the Programme for International Student Assessment (PISA), and the Progress in International Reading Literacy Study (PIRLS), students from the U.S. have not done very well. The 1995 TIMMS found U.S. students outperformed only two of the twenty-one countries tested in math. In science, only eleven of twenty-one countries. On the PISA, U.S. students tested twenty-fourth among forty countries in math and placed eighteenth in reading (Committee on Prospering in the Global Economy of the 21st Century National Academies, 2007; Organisation for Economic Co-operation and Development, 2004; Thompson et al., 2012). These statistics shine a spotlight on academic failure and weak economic future for the U.S. (Pink, 2005; Zhao, 2009).

In response to correct these issues quickly, the U.S. Department of Education updated the Elementary and Secondary Education Act to make sure “every student will graduate from high school ready for college and career regardless of their income, race, ethnicity, or disability status” (U.S. DOE, 2013, p. 3). A new focus, increasing student college and career readiness, emerged with the adoption and implementation K-12
Common Core State Standards (CCSS, 2012). So far, forty-three states have adopted this policy (CCSS). U.S. policy makers and local communities have begun to use these standards to measure K-12 students in terms of meeting college and career readiness benchmarks (Conley, 2010). Much of the focus on college and career readiness has been helping students enter two or four year colleges without the need for remediation; however this appears to be only part of the equation (Career Readiness Partner Council, 2012; Conley, 2010).

**College and Career Readiness**

College and career readiness for U.S. students is a major focus as the country tries to remain competitive globally (ACT, 2013; Conley, 2010; Education Trust, 1999; PARCC, 2013; U.S. DOE, 2013). K-12 students are now required to possess knowledge economy skills traditionally obtained by post-secondary education or training (Achieve, 2004; ACT, 2013). In today’s economy, employers are recruiting employees actively with such advanced knowledge and skills. Future U.S. economic success appears to depend on K-12 student acquisition of post-secondary education or training at an earlier age (Achieve, 2004; Bowen, Chingos, & McPherson, 2009).

Research suggests K-12 schools need to prepare students for college and career readiness beyond high school focusing on key skills (Conley, 2010; Somerville & Yi, 2002). As K-12 students gain such skills traditionally received in post-secondary education or training, future economic work needs are being examined to determine exactly what K-12 academic content knowledge and skills are needed for future success (Achieve, 2004; Coney, 2011).
David Conley (2010) identifies college readiness as the first building block of college and career readiness. That is, “mastery of certain skills in reading, writing, speaking, mathematics, science, literature, history, and art” (Conley, p. 5). Conley also notes that creativity and innovation is important to ultimately provide security to the U.S. economy (Conley, 2010). Embracing ideas and creativity leads to innovation attracting global employers to recruit for competent, creative and innovative individuals (National Center on Education and The Economy, 2007).

**Defining College Readiness in K-12 Education**

Much discussion has taken place among K-12 educational leaders with respect to college readiness (Conley, 2010; Partnership for Assessment of College Readiness and Career, 2013). The Partnership for Assessment of College Readiness and Career (PARCC, 2013) developed a state consortium to develop college and career readiness assessments in English and Mathematics based on the Common Core State Standards (CCSS, 2010). PARCC (2013) also developed end of course exams to measure K-12 college and career readiness benchmarks. These end of course exams were meant to measure completion of high school courses ultimately ending in some type of a certificate or degree, taking college courses for credit, course remediation exemption, higher grades in freshman college courses (i.e. College Algebra, Freshman Composition), and better grade point averages (GPA) in college (PARCC, 2013).

The ACT QualityCore (ACT, 2013) also created college and career ready exams that schools could use specifically focused subjects such as Algebra 1, Geometry, Algebra 2, Precalculus, English 9, English 10, English 11, English 12, Biology,
Chemistry, Physics, and U.S History. Schools were encouraged to use innovative methods to help students learn, such as formative and summative assessment, and guide classroom instruction and intervention all while using data to improve student achievement and progress (DuFour, 2011). ACT QualityCore (2013) provided schools with a new academic rigor focused on developing student knowledge, skills, and other attributes needed for college and career success (ACT, 2013).

Yet career readiness continues to be interchanged with college readiness (ACT, 2013; Conley, 2010; Council on Career Readiness, 2014) as a pathway requiring post-secondary training or education (Achieve, 2012). Since a high school diploma is considered no longer satisfactory for success after graduation, career readiness has become understood as success in post-secondary in training or receiving additional education needed to enter a chosen career field (Achieve, 2012). Less agreement arises around what specific elements define career readiness or even how to measure it (Conley, 2010).

Gysbers (2013), a researcher in school counseling and career development, suggests career is about the total person. From the perspective of Gysbers (2013), individuals ready to proceed with a career from the viewpoint of career development might be seen as “proactive, resilient, and have an adaptive style of interacting in the present and assertively move towards a self-defined career future that adds meaning, purpose, and satisfaction to their lives” (Gysbers & Lapan, 2009, p. 23). Helping students become ready for an eventual career starts with elementary school and continues until a student is ready to graduate from high school (Gysbers, 2013). Yet, how do K-12
educational leaders understand career readiness when they are working to create such cultures within their schools? Many researchers (Conley, 2010; PARCC, 2013) suggest that it begins with the context of college readiness. Yet, since career is frequently interchanged with college readiness, it becomes clear career readiness needs defined.

**Defining Career Readiness in K-12 Education**

Fourteen of forty-six states responding to a survey developed by the Center on Education Policy at The George Washington University (CEP, 2013a) stated they had a statewide definition of what it means for K-12 students to be career ready. States reporting included Colorado, Delaware, Georgia, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, North Dakota, and Virginia (CEP, 2013a). An analysis of state definitions of career readiness suggests most states appear to use a combination of ideas proposed by ACT WorkKeys (2013), Association for College and Technical Education (ACTE, 2013), and/or David Conley’s Four Keys to College and Career Readiness (CEP, 2013b; Conley, 2010).

**ACT WorkKeys.** Many states, such as Arkansas, Georgia, North Carolina, Oregon, and Virginia, have started using ACT’s WorkKeys (2013) assessments to help students earn a National Career Readiness Certificate (ACT, 2013). The NCRC was developed by ACT to help students achieve industry-recognized credentials to achieve career success (ACT, 2013). Industry-recognized credentials have become a hot topic in the discussion about helping students become career ready since the NCRC credential is used by various organizations across the country (ACT, 2013). The NCRC is used to help individuals achieve cognitive skills required by organizations such as problem
solving, critical thinking, reading and using work-related text, applying information to solve problems, applying math to work problems, performing math calculations, and presenting analyzed information graphically (ACT, 2013).

ACT WorkKeys (2013) engages analysis of two major categories, foundational and soft skills. Within foundational, ACT WorkKeys (2013) looks at “skills in applied mathematics, reading for information, location information, applied technology, business writing, workplace observation, and listening for understanding” (p. 1). Many these skills are also covered by the Common Core State Standards college and career ready benchmarks (ACT, 2013; CCSS, 2013).

Regarding soft skills, ACT WorkKeys (2013) looks for fit, performance, and talent. Soft skills, also noted important by David Conley (2010), can be difficult to identify and measure. Soft skills add significant value to career readiness provided the college readiness definition, provided by ACT WorkKeys’ (2013) foundational skill measurement is sufficiently met. For soft skills analysis, ACT WorkKeys (2013) looks at fit assessments using the ACT Interest Inventory and ACT Work Values Inventory (ACT, 2013). The ACT Interest Inventory, completed by approximately four million people, is considered reliable and valid since it’s been around for well over a decade (ACT, 2013). The inventory consists of six basic interests covering “basic work tasks, such as administration and sales, business and operations, technical, science and technology, arts, and social service” (ACT, 2013, p. 3). The ACT Work Values Inventory (2013) consists of eighteen items found in value inventories, such as “public contacts, autonomy, influencing others, intellectual stimulation, work precision, and creativity” (p. 23).
ACT WorkKeys (2013) also looks at a performance assessment measuring general work beliefs. With respect to work beliefs, researchers find that career ready students are productive in “work, task, job performance, and organizational citizenship behavior” (ACT, 2013). The ACT WorkKeys (2013) Performance Assessment provides a composite report of general work beliefs (ACT, 2013). Lastly, the ACT WorkKeys (2013) Talent Assessment measures aspects of personality in the workplace, such as “carefulness, cooperation, creativity, discipline, goodwill, influence, optimism, order, savviness, sociability, stability, and striving for career goals”. These measures of personality look at aspects of work discipline, teamwork, managerial potential, and customer service orientation. These inventories and assessments indicate whether an individual might be career ready within the workplace (ACT, 2013).

Alignment studies between the Common Core State Standards, ACT WorkKeys, and ACT show significant differences, and researchers have found it difficult to determine if the tests measure the same constructs (Dorans, Lyu, Pommerich & Houston, 1997; NCES, 2011). As such, further research is needed to investigate other definitions of career readiness.

**ACTE.** The Association of Career Technical Education (ACTE, 2013) has received much support with respect to defining career readiness of students. ACTE was created to enhance job performance of students upon graduation from high school, awareness and appreciation for secondary career and technical programming, and assure growth in career technical education across the country (ACTE, 2013). Career and technical education began in the late 1700s and continues today emphasizing the
importance of strong knowledge and skill sets with respect to career readiness (ACTE, 1976). Acceptance of career and technical education began after World War I expanding to adult education which initially retrained soldiers to enter the workforce. World War II influenced an increase of technical skill needs for defense purposes (ACTE, 1976).

In 2013, ACTE continued the conversation with the U.S. DOE about the knowledge and skills students need for career readiness upon graduation from high school (ACTE, 2013). ACTE (2013) reported students bound for college and career needed core academic skills, as presented by ACT (2013) or CCSS (2013), and employability and technical skills. ACTE (2013) strongly felt students needed career and work ready skills such as academic, employability, and technical skills to be successful in career opportunities upon graduation from high school.

ACTE (2013) found basic academic skills, such as reading and mathematics, utilized daily in work situations. Employability skills, such as the “ability to effectively communicate, work with others and creativity”, were also essential to becoming career ready (ACTE, 2013, p. 2). Technical skills were also considered important as employers expect good academic and technical skills (ACTE, 2013). However, employability was considered the differentiating factor (ACTE, 2013).

Employability skills are what set apart employees (ACTE, 2013). Employability skills such as “critical thinking, adaptability, problem-solving, oral and written communications, collaboration and teamwork, creativity, responsibility, professionalism, ethics, and use of technology” are important (ACTE, 2013, p. 2). Employers have continuously cited these skills as critical to career readiness (SHRM, 2008). ACTE
(2013), however, believes students should have all three skills, academic, employability, and technical, in order to be truly career ready upon graduation. Furthermore, ACTE (2013) notes that K-12 educational leaders should focus more time on providing students a strong foundation across all three areas to be career and future ready.

Four dimensions of college and career readiness. David Conley’s (2010) college and career model has been important in helping to define college and career readiness (PARCC, 2013). Conley (2010) proposes schools need to prepare K-12 students to “enroll and succeed without remediation in college credit-bearing courses to attain at least a bachelor’s degree or some type of high-quality training certificate so students can successfully pursue a career pathway” (p. 5). Conley (2010) defines college and career ready as “completing entry-level courses or core certificate programs at a level of understanding and proficiency” (p. 5). Conley (2010) describes what a college and career ready student might look like in today’s world. For example, he or she might understand what is expected in a college course, knowledge expected to be at proficiency, and take away key concepts from the course (Conley, 2010). In addition, a student would understand how to make the most of a college experience by taking advantage of the college culture and networks within the post-secondary environment.

PARCC (2013) and CCSS (2013) refer to Conley’s four key dimensions when identifying college and career ready benchmarks for students. In 2012, the Partnership for Assessment for Readiness for College and Careers (PARCC) Governing Board and the PARCC Advisory Committee on College Readiness voted to adopt a College and Career-Ready Determination (CCRD) policy and Policy-Level Descriptors. The CCRD
policy recognized academic preparation as essential to college and career readiness, however it did not include the full range of knowledge and skills, such as “persistence, motivation, time management, employability, and technical skills, eventually needed for continued future success” (Conley, 2010, p. 4). Career readiness appears much harder to define due to a lack of data about how well students performed in post-secondary training institutions and future employment (PARCC, 2012). At this time, PARCC defines career readiness as having the academic skills and knowledge to be placed and succeed in a post-secondary vocational or career training program (PARCC, 2012).

The Educational Policy Improvement Center (EPIC, 2012), founded by Conley, attempts to dive deeper into college and career readiness by providing four key dimensions of college and career readiness including cognitive, content knowledge, learning skills and techniques, and transition knowledge and skills. In his book *Understanding University Success*, Conley (2003) presents data from over four hundred faculty and twenty research universities supporting the dimensions of college and career readiness students need for success in entry-level college courses.

Key cognitive strategies include higher order thinking skills and content knowledge closely resembling the CCSS standards (CCSS, 2013; Conley, 2010). Conley (2010) presents learning skills including “time management, persistence, meta-cognition, goal setting, and self-awareness” (p. 5). Conley (2010) also considered transitional knowledge and skills as important such as “college admissions, financial aid, and networking the college” (p. 5). Conley (2010) further notes “non-cognitive behaviors, such as learning skills and transitional knowledge”, are equally as important (p. 4).
Conley (2010) presents college and career readiness is a multifaceted idea taking into account a number of variables. To evaluate student success with respect to college and career readiness, Conley (2010) focuses on “cognitive strategies such as content knowledge, academic behaviors, and contextual and awareness skills” (p. 5). For Conley (2010), cognitive strategies work together like a symphony orchestra in that each instrument plays as one. Conley’s (2010) model of college and career readiness was tested with almost forty high schools that outperformed comparable schools also responsible for preparing students for college and career readiness. Conley (2010) found key themes that existed in these schools that prepared students for college and career readiness.

First, Conley (2011) noted the schools created and maintained a college-going culture. College readiness was defined broadly to as “postsecondary programs, four-year to two-year community colleges to certificate programs to going into the military” (Conley, 2010, p. 5). Conley (2010) found that schools aligning their core academic program to K-12 college readiness went beyond the required relevant state standards academically and better prepared their students for “college, dual enrollment opportunities, post-secondary enrollment options, successful completion of Advanced Placement courses” (Conley, 2010; p. 4).

Conley (2010) notes K-12 schools should consider creating a culture where students teach themselves self-management skills and academic behaviors. Conley (2010) found that K-12 educational leaders implementing a range of college and career ready programs were successful in preparing their students for life after graduation.
Also, making college and career seem real to students helped them to manage the complexity and prepare them for life after high school (Conley, 2010). In these situations, school staff prepared students for college and even developed assignments and grading policies to align with local college expectations (Conley, 2010).

Conley (2010) identified college instructor expectations as a barrier for student success in college. In response, high schools successful in preparing their students increased the rigor of their curriculum and strongly encouraged their students to take responsibility for their learning as to allow for an easier transition into college or career after graduation (Conley, 2010; Savickas, 2005). This approach also helped students remain engaged in schools so they didn’t have to take remedial college courses. Lastly, these successful high schools also created strong relationships with their local colleges and universities so they had awareness for students about the academic and social rigor needed for college and career success (Conley, 2010).

In summary, K-12 education has various definitions of career readiness for K-12 educational leaders to consider. Although K-12 education places a strong emphasis on creating definitions around college and career readiness, K-12 educational leader assisting students by increasing academic rigor in the classroom helped students to set college and career goals (Conley, 2010). Many schools set up opportunities for students to take interest inventories, explore career options and pathways, and plan for their lives after high school graduation beginning as early as middle school (Conley, 2010). Career assessments, such as the Strong Interest Inventory (Hansen & Campbell, 1985) or Holland’s Self-Directed Search (Holland, 1997), gave students an opportunity to explore
their passions and start to create pathways and options for themselves. While K-12 educational leaders utilize career ready curriculum or assessments, such as ACT WorkKeys (2013), ACTE’s definition of career readiness, or Conley’s (2011) key dimensions of college and career readiness, to gauge college and career ready skills, such curriculums or assessments potentially miss the connection to career as a lifelong process.

**Vocational Psychology: Career Development**

Vocational psychology understands career as a complex life-span process (Schein, 1978; Super, 1984). The practice of career development, otherwise known as career guidance or counseling, has been around for over a century. Donald Super’s (1984) career development theory provided individuals with an opportunity to match their abilities and interests to occupational positions. Matching abilities and interests to occupations provided individuals with a concept of the self, according to Super (1984), similar to K-12 education’s construct of career readiness as schools prepare students for college or career by matching their abilities and interests with possible job outcomes. However, while career development theory was an initial attempt at trait and factor theory following Holland’s (1977) self-directed search model, Super (1984) found matching a person’s abilities and traits was not completely grounded in occupational roles.

In 1984, Super introduced a developmental self-concept theory which emphasized the role of self-concept in career development, focusing on how the self evolves and affects job behavior. After compiling projects focused on trait and factor theory and self-
concept, Super (1990) continued to advance ideas, such as life-span theory. Life-span theory introduced the concept that one’s life was a constellation of roles similar to a constellation of stars in the galaxy. That is, a person’s work role was situated in relation to other roles they might play in life such as parent or sibling, etc. The idea of trait and factor and self-concept fell in wake of life-span theory.

Career readiness, as currently presented in K-12 education, simply appears to be matching a student’s traits and interests using assessments such as ACT WorkKeys (2013) or definitions proposed by ACTE (2013) or Conley’s four dimensions of college and career readiness. However, as noted by Super (1984), life in era of information technology is not set in occupational roles (Savickas & Porfeli, 2012). That is, career is more than just a job (Savickas, 1997) and has more meaning than just cognitive, foundational, technical, or other skills demonstrated by mastery of the Common Core State Standards (CCSS, 2013).

History of Career Development

Career development actually began with its roots in K-12 education and it appears history maybe repeating itself with respect to understanding career readiness in K-12 education. Frank Parsons (1909) was a major architect of career guidance and counseling in twentieth century and wrote about career guidance in Choosing a Vocation. Parsons, an engineer and lawyer by trade, spent much of his life dealing with educational reform movements related to career guidance. In Boston, Parsons established a vocations bureau to help U.S. immigrants choose effective work. Parson (1909) also spent much of his time criticizing Boston’s public school system for not providing career guidance to
students (Stephens, 1970). In Parson’s mind, adapting career guidance in schools was extremely relevant to educational reform in 1900s. This sounds eerily similar to what is occurring in today’s K-12 educational reform movement.

Parsons (1909) wrote a book about choosing careers to help students, specifically adolescents, explore their interests and choose jobs with reasonable expectations of success. In those days, students were asked to read biographies, observe workers in their settings, or even examine existing job descriptions available at that time (Herr et al., 2004). Parsons (1909) assumed both men and women could successfully investigate their own career interests, successes and limitations, and ultimately decide on a job. Much of the 20th century in career guidance and counseling related to K-12 education is dedicated to Parson’s model of vocational guidance (Savickas, 2005). Steps were added by future vocational psychologists to create frameworks using both research and scientific methodology to support Parsons’ (1909) model. From 1900 to 1930, two independent approaches to vocational guidance arose from school counselors and vocational educators which was later used by the U.S. Department of Labor and rehabilitation agencies (Herr et al., 2004). In the 1940s, the Boston Public Schools and other large cities eventually adopted Parsons’ model of vocational guidance to include courses on job information and self-study (Herr et al., 2004).

Awareness of personality and individual differences gave way to a psychological, rather than educational, approach to career guidance and counseling. Dewey’s theory (1897) provided developmental views of the individual and K-12 education began to take on a child-centered pedagogy influenced by psychology (Cremin, 1961). Although the
effects on career guidance, mainly by school counselors, were not easy to document, career guidance was eventually tied to the educational missions of schools (Herr et al., 2004).

Carl Rogers’ (1951) focus on client centered therapy began to cause shifts in traditional views of career guidance. In the 1950s, career development theories provided by Ginzberg, Ginsberg, Axelrod, and Herman (1951) and the Psychology of Careers pioneered by Super (1957) provided a better explanation of career as related to tasks, factors, influences, and processes influencing an individual over his or her life span. Further, John Crites (1965) introduced the concept of career maturity which included differential diagnosis, dynamic diagnosis, and decisional diagnosis. The first form, differential diagnosis identified why a person had a career concern. Next, dynamic diagnosis looked at why the career concern had happened. Lastly, decisional diagnosis looked at the individual’s ability to eventually choose a particular career. These theories related to career development provided an opportunity to explore career across the life span.

**Theory of Career Construction**

Mark Savickas (2005) developed a revelatory process by presenting career as having meaning and direction in one’s life. Advancing Super’s (1957) theory of career development, Savickas (2005) followed Super’s idea of career as a social construct to understand and re-create the process of career development. Savickas (2005) saw career as being created by the individual through their own lens and finding a story created by what barriers and balconies in a person’s life (Savickas, 2005). That is, people inherently
adapt to their environments by creating a story about their own reality as opposed to following a specific career development process. Career construction presents the individual with an opportunity to create their reality through social interaction and making meaning of their life (Savickas, 2005). Adaptability and flexibility are central in making career decisions (Savickas, 2005). Adaptability and flexibility were also presented as important career readiness aspects by ACTE (2013) and ACT WorkKeys (2013). For Savickas (2005), career construction focused on preparing individuals to develop career self-concepts, such as a concern about career, career curiosity, confidence in finding a career, and control with regards self in career.

Career construction investigates a person’s career experience by looking into their individual ideas and feelings about themselves, their work, and life (Savickas, 2005). Further, career construction extends individual personalities into the world and eventually one’s career path (Savickas, 2005). Using career construction, people eventually contribute to the world by becoming aware of their own feelings about themselves, their work, and their lives. The goal is to eventually identify patterns in a person’s life and creating life themes.

In career construction, life themes help define the process of career decision making. Individual stories or narratives arise about life experiences impacting work experiences eventually creating a story around how a person might live (Savickas, 2005). By focusing on career construction’s four dimensions of adaptability, K-12 educational leaders have an opportunity to understand career as a way for students learn about themselves, work, and possible future life roles.
Dimensions of career adaptability. K-12 educational leaders can assist students in dealing with the expectations of society through career adaptability. Career adaptability helps students to successfully engage in the world of work (Savickas, 2005). Career adaptability evolved from the concept of career maturity (Crites, 1965; Super, 1955) which focused on individual development compared to one’s peers (Savickas, 2005). Super’s (1957) perspective on career reflected earlier times when stable and orderly environments created consistency in career development. In today’s society, students are faced with a multitude of external stimuli which pushes career development in numerous directions (Collin & Watts, 1996; Conley, 2010; Education Trust, 1999).

Society has progressed into a knowledge-based technological focus forcing individuals to adapt and become a type of “It’s All About Me” society (Savickas, 2005). In order to survive, individuals have to become flexible to their environments (Savickas, 2005). Career construction provides a solution for individuals searching for themselves to create stories about themselves, their lives, and roles in work (Savickas, 2005). Using the dimensions of career adaptability, K-12 educational leaders can help students create their own stories that reflect their beliefs and attitudes. However, the theory of career construction goes a step further to help individuals develop coping skills so they can master the knowledge and skills needed to become college and career ready upon graduation from high school (Savickas, 2005). These coping skills help individuals develop a sense of concern, control, curiosity, and confidence related to their career pathways.
**Concern.** Savickas (2005) sees concern about the future as the most important component of career adaptability. Having a concern about one’s future helps develop a need to plan and feel optimism about the future (Savickas). Concern about the future makes it seem real and individuals are forced to recall their past and present experiences in order to think about what the future might bring. In this capacity, individuals begin to reflect upon themselves and how they might like their story to look like with respect to work as time progresses in their life. K-12 educational leaders can invest in career interventions to develop concern by creating a positive atmosphere of career discussion and help students become aware of the potential realities of their future so they can begin to design their own stories.

**Control.** Controlling one’s future is the second part of career adaptability. Constructing careers based on “sound decision-making, assertiveness, locus of control, autonomy, self-determination, effort attributions, and agency” is important (Blustein & Flum, 1999, p. 345). Control gives students an opportunity to create their own brand as free agents in the new “It’s All About Me” world (Savickas, 2005). K-12 educational leaders can help students to strengthen themselves using aspects of career control by discussing how to be assertive in making career decisions while connecting positive outcomes with managing one’s time and self through hard work.

**Curiosity.** In strengthening control over the future, individuals eventually begin to consider possible future scenarios involving themselves and their work (Savickas, 2005). K-12 educational leaders can support this effort by supporting student inquiry and exploration about the fit between themselves and career decisions. Not being realistic
about work has the potential to produce mistaken images oneself in the future (Savickas, 2005). This is exemplified daily by students wanting to become doctors or lawyers, but not having the academic standing to proceed in the field. K-12 educational leaders can assist students by providing them mentors or internships so they can experience possible images of their future selves.

**Confidence.** Having confidence in making decisions about one’s career prepares students for potential success when encountering career challenges or obstacles (Rosenberg, 1989). Fundamental to constructing stories about one’s future career is having the confidence to solve complex problems as they arise in life (Savickas, 2005). Being able to solve such complex problems gives students an opportunity to become accepting of one’s decision making abilities and creates a sense of self-worth through self-efficacy and self-esteem building.

Career construction ultimately provides an individual with insight into themselves, how they adapt to career situations, and understand their own life themes (Savickas, 2005). Understanding career adaptability concepts offers the best structure for K-12 educational leaders to help students gain an understanding of oneself as they prepare for college or career (McAdams, 2001). As students move through their K-12 education, they begin to develop a lifelong identity (Savickas, 2007). This identity is constructed from their environment which informs the self on how to interact with the environment (Savickas, 2007). K-12 educational leaders would be wise to consider the theory of career construction and aspects of career adaptability in conjunction with the concept of career readiness, as it draws upon years from some of vocational psychology’s
best researchers in the area of career development (Holland, 1997; Savickas, 2005; Super, 1984).

**Social Cognitive Career Theory**

Another empirically supported career theory providing K-12 educational leaders an opportunity to connecting important aspects of career development to career readiness is social cognitive career theory (Lent et al., 1994). SCCT has come to the forefront as a new approach to career development to explain why people are interested in certain types of work, how they set goals, and persist when the going gets tough in the work environment. This information is very helpful to K-12 educational leaders as they assist their students in becoming career ready upon graduation. However, much of the research on SCCT has been on people are college-bound or college-educated (Lent et al., 1994) as opposed to students in grades K-12.

Lent et al.’s (1994) social cognitive career theory was derived in part from Bandura’s (1986) social cognitive theory to help people explore careers, make career decisions, and persist in their career pursuits. Bluestein (1999) supports SCCT as an influential theoretical view on career which emphasizes self-efficacy as key in explaining individual career development. Kelly (2009) compared Bluestein et al.’s (1997) research in finding satisfaction in life through exploration of oneself and one’s environment to SCCT and its impact on school-to-work transitions (Lent et al., 1994). Lent et al. (1994) successfully connect SCCT with social learning (Krumboltz et al., 1976); person-environment fit (Dawis & Lofquist, 1984), personality type (Holland, 1985), developmental theory (Vondracek et al., 1986), and life-span (Super, 1990). Using these
theories, Lent et al. (1994) developed three additional models of SCCT to describe how career interests develop, can be implemented, and eventual performance outcomes through implementation. In reviewing the SCCT model, Lent and Brown (2006) found their theory provided information about academic satisfaction among college students which is integral to college success and potentially transferable to postsecondary training program success.

In SCCT, career interests are developed by having self-efficacy in a situation and expecting the outcome. That is, when individuals experience personal success and resulting positive outcomes. In K-12 education, students benefit from having exposure to career activities that develop self-efficacy and create positive outcomes. K-12 educational leaders have the potential to help students review their understandings of career readiness by providing them activities and interventions to increase their career options (Gibbons & Shoffner, 2000).

Vocational psychology perceptions about career, such as the theory of career construction and social cognitive career theory, help provide new insights into K-12 education’s understanding of career readiness. With these insights, effective leadership from K-12 educational leaders, such as superintendents, principals, lead teachers, school counselors, is needed to lead a new direction for understanding and preparing students for career readiness upon graduation and beyond (Conley, 2010; Fullan, 2007)

**Leading Change**

Throughout history, effective leaders have been needed to help K-12 education adapt in the midst of change (Fullan, 2007; Yukl, 2010). Schools are strategically
analyzing their selection of educational leaders to successfully lead staff and students into the 21st century and beyond (Fullan, 2006). K-12 leadership focused on creating college and career ready cultures have become essential (ACT, 2013; Conley, 2010; Fullan, 2007). As schools and communities work together to enhance college and career readiness for their students, strong leadership is one of the most important characteristics of sustainable growth (Yukl, 2010). With the past recession and current globalization, competent leadership is indispensable as effective teaching has a direct impact on student learning outcomes (Schleicher, 2012). In order to begin successfully implementing college and career readiness in schools, K-12 leaders need not only consider how they understand career readiness, but also consider the leadership criteria needed to create an environment for 21st century future success (Fullan, 2007).

**Transformative leadership.** Bernard Bass (1997) investigated the impact of transformational and transactional dimensions and its correlation to successful leadership. Bass (1997) found charisma, inspirational leadership, individualized consideration, and intellectual stimulation as dominant characteristics leaders must exhibit. Charismatic practices by leaders provoke strong emotions in staff and help them to identify with the leader’s personal qualities and sense of mission. This aspect is extremely beneficial in a school where a leader, such as a principal or administrator, might need to gain the trust and buy-in of teachers to help implement a college and career readiness culture (Fullan, 2007). Communicating a strong and appealing vision to teachers while modeling of those practices consistent with a leader’s vision is necessary for transformational success. K-12 educational leaders need to do what they say in an ethical and moral way (Fullan,
2007). By providing support and encouragement to teachers for their efforts and opportunities to develop, or referenced by Bass (1997) as individualized consideration, teachers can develop the tools to drive teaching and learning.

Teachers have an opportunity for intellectual stimulation when a leader increases awareness of potential issues such as college and career readiness and encourages teachers to take ownership of those issues, thus impacting their work with students (Fullan, 2007). Schleicher (2012) found twenty-first century teachers need to be knowledge workers who constantly advance their own professional knowledge and their profession. Bass (1997) also discussed transactional leadership in conjunction with transformational leadership, but only as a secondary and supplemental dimension. Both transformational and transactional styles of leadership can benefit school staff and its leaders when beginning to implement change such as college and career readiness of students. Yet, transformational leadership has been identified as more effective and satisfying than the factors of transactional leadership (Bass, 1997).

Shamir, House, and Arthur (1993) found K-12 educational leaders using either transformational and/or transactional leadership styles require an understanding of the school conditions, cultures, and climates where trust between the leader and staff exists. K-12 educational leaders need to be sensitive to societal norms which might be seen differently by staff (Fullan, 2007). For example, while K-12 educational leaders may perceive college and career readiness as essential to a student’s development, some staff may not agree. Especially with respect to different U.S. geographical areas such as Appalachia where families would like their students to stay close to home rather than
leave for college or get a job in another part of the state or country (Smith & Sobel, 2010). Northouse (2010) suggests K-12 educational leaders use leadership instruments and inventories to help identify and measure their own leadership style in comparison to their staff and community being served. Effective K-12 educational leaders could use this information to best assist their school and staff to improve student college and career readiness.

**Authenticity.** Bass (1997) found leadership also begins with trust. Integrity is essential with a commitment to school values, goals, and consistent K-12 educational leader actions (Fullan, 2007). Authentic leaders can motivate staff by the helping them to align with the same commitments and beliefs related to college and career readiness (Fullan, 2007). Authentic leaders emerge from their own life stories and commit to developing others (George, Sims, McLean & Mayer, 2007).

**Distribution of power.** Distributed leadership is essential when considering implementation of college and career readiness. In this respect, leadership is distributed by K-12 educational leaders to the entire staff (Hallinger, 2010). Fullan (2006) found distributed leadership encourages sustainable growth that can be owned by teachers who eventually implement them in the classrooms. Spillane, Halverson, and Diamond (2004) contend it is essential to go beyond the roles and strategies of K-12 educational leaders and investigate how leadership can be shared within in the school. Distributed leadership allows everyone in the school to quarterback the implementation of college and career readiness at some point or another sharing the role of leader.
Serving staff. Similar to transformational leadership, servant leadership nurtures staff development by listening, providing empathy, stewardship, and developing sound relationships (Walumbwa, Hartnell & Oke, 2010). K-12 educational leaders can inspire and enable staff with the implementation of college and career readiness cultures through supportive behavior exhibited by personal character, people first mentality, skilled communications, empathetic collaboration, instinctive foresight, systems thinking approach, and moral authority (Sipe & Frick, 2009). In addition, K-12 educational leaders benefit by literally offering themselves as a servant to their school by empowering their teachers and students. This servitude has a powerful effect on the school by empowering staff to have a collective self-efficacy where their efforts as a group have positive impacts on students (Hoy & Miskel, 2012).

Democratic considerations. In towns and communities across America, K-12 educational leaders have an opportunity to help students achieve the American Dream (Achieve, 2004). The idea of school itself represents a story of democracy where everyone has a chance to be successful as long as they are prepared to work hard and dedicate themselves to their work and community. Competent K-12 educational leaders are desperately needed in today’s knowledge worker economy (Schleicher, 2012). Given the current labor market and globalization of the economy, K-12 educational leaders have an opportunity to prepare students to position themselves as best possible for their future. Krishnamurti (1953) drives this concept home by focusing years ago on the need for true peace through means of a good education. K-12 educational leaders could better assist their students by considering how to best implement college and career readiness cultures
in their schools while considering what it means to have true intelligence and education (Krishnamurti, 1953).

**Civic collaboration.** Similar to a gardener in their garden helping plant seeds of life to blossom into wonderful creations, effective K-12 educational leaders sow their own seeds of enhancing student college and career readiness to help develop communities of civic Americans looking to contribute to their society and world (Smith & Sobel, 2010; Lopienski, 2013). K-12 educational leaders are tasked with cultivating a rich environment of college and career readiness where students and their communities can collaborate for the greater society (Smith & Sobel, 2010; Lopienski, 2013). Collaborative efforts between schools and their communities are essential to establishing and sustaining meaningful relationships for college and future readiness (Conley, 2010; Lopienski, 2013). Students and their communities have an opportunity to cross learn from each other to help enhance their society. Both young and old have an opportunity to learn from each other by interacting in college and future readiness activities and events where each learns about their past, present, and opportunities for the future. These types of opportunities foster strong partnerships where everyone in the school as well as the community shares a sense of accountability for the success of furthering student career readiness (Lopienski, 2013).

John Dewey (1897) described democratic communities as places that actively encourage participation by all, especially in the case of school systems. A school, Dewey (1897), argues should serve as a place where educational class barriers are broken down versus traditionally keeping individuals from interacting with each other (Lopienski,
Thus, an importance arises of correctly defining career readiness for all students. Effective educational leaders play an active role in communities by increasing the mutually dependent relationship between individuals and their community (Lopienski, 2013; Quinn, 2011).

As educational leaders begin to consider the different aspects of creating a democratic environment within their own schools and communities, it is important to recognize that effective K-12 educational leaders have an opportunity to collaborate with their staff, students, and communities to create their own stories about implementing college and career readiness of their students (Lopienski, 2013). How these communities and schools proceed to develop this story, through elements of effective leadership, provide students an opportunity to develop and achieve for the benefit of society for years to come (Lopienski, 2013).

**Q-methodology**

As K-12 educational leaders begin their implementation of effective leadership around college and career readiness, understanding how K-12 educational leaders view career readiness is essential given the multitude of perspectives that currently exist around the construct of career from education and vocational psychology (ACT, 2013; ACTE, 2013; Conley, 2010; Lent et al., 1994; Savickas, 2005). Q-methodology (QM), developed by William Stephenson (1953), provides a unique methodology to look at how K-12 educational leader understand career readiness both from a quantitative and qualitative perspective.
QM is beneficial primarily because it allows K-12 educational leaders to give their perspective on how they understand career readiness and provides the researcher an opportunity to identify key themes that appear within the group and individually (Addams & Proops, 2000). QM is used to reveal the subjectivity in understanding career readiness from the judgments, interpretations, perceptions, attitudes, appraisals or even experiences of K-12 educational leaders (Brown, 1996). Further, QM gives the researcher an chance to discover qualitative information about a K-12 educational leader’s opinion and quantify data of K-12 educational leaders in general using factor analysis (Brown, 1980). QM combines both qualitative and quantitative data to produce a well-rounded conclusion (Sell & Brown, 1984; Brown, 1996).

QM has been used in previous studies related to K-12 education. QM was used in 1996 by Hull (2003) to study teacher views about curriculum and teacher attitudes toward special education inclusion (Elhoweris & Alsheikh, 2006). More recently, Edwards (2007) used QM to explore teacher understanding of leadership in the classroom, school, and K-12 educational community in general. However, QM has never been used to uncover K-12 educational leader understanding of career readiness related education.

QM was chosen for this study because it is seen as the best research technique to expose the subjective view of career readiness from the perspective of K-12 educational leaders (Brown, 1980). Viewpoints about issues, such as career readiness, are subjectively acted upon in QM by participants to provide a true voice and understanding to the proposed subjective question, such as how does K-12 educational leaders understand career readiness. QM also provides an opportunity for participants to rank
and assign value to their understanding of a concept by referring to their own subjective viewpoints. Watts and Stenner (2012) value QM as a research methodology as it includes aspects from both qualitative and quantitative measures.

QM is also a useful research method as it only requires as few as twelve participants while allowing for a large number of statements representing attitudes, values, or traits about a particular question, such as career readiness Watts & Stenner, 2005). QM gives K-12 educational leaders a method to provide their subjective understanding of career readiness including statements from both education and vocational psychology without having to sample a large number of individuals.

**Conclusion**

The previous literature discussed how K-12 educational leaders might currently understand career readiness as currently presented in educational literature (ACT, 2013; ACTE, 2013; Conley, 2010) while considering vocational psychology’s theory of career construction (CCT; Savickas, 2005) and social cognitive career theory (Lent & Brown, 1999). The researcher explored and reviewed many scholarly journals as well as books on career readiness, career development, and educational leadership. All of this exploration of literature provided the researcher with a current understanding of career within the context of K-12 education and vocational psychology while considering the impacts effective K-12 educational leaders when attempting to implement college and career readiness in their schools. Career readiness was presented as needing further clarification specific to the field of K-12 education as it pertains to K-12 educational
leaders understanding. Chapter 3 provides additional explanations of QM and tools used to support the method for this study.
Chapter 3: Methodology

Introduction

The purpose of this study is to investigate K-12 educational leaders understanding of career readiness. In the literature, discussion has taken place surrounding different definitions of career readiness in the field of K-12 education in which aspects of career readiness are gleaned from the fields of vocational psychology’s theory of career construction and social cognitive career theory. This study plans to identify patterns of perspectives that K-12 educational leaders have about career readiness taking into consideration both the current definitions of career readiness from K-12 education (ACT, 2013; ACTE, 2013; Conley, 2010), vocational psychology’s theory of career construction (Savickas, 2005), and social cognitive career theory (Lent et al., 1994). Data will be collected from K-12 educational leaders to capture their perspectives about career readiness and explore patterns to identify emerging factors within the participant group using Q-methodology (QM) analysis. The main research question guiding this exploratory study is: How do educational leaders understand career readiness?

This study has complied with federal guidelines and policies of Ohio University by submitting to the Institutional Review Board (IRB) for approval #15E151 (see Appendix 4). IRB approval ensures agreement regarding the rights of human subjects involved in this study. Chapter 3 will review QM and provide an explanation regarding the concourse, Q-samples, P-samples, procedures, and data to be analyzed in the study.
Why Q?

The researcher chose QM as the best research technique for this study since it has the ability to explore K-12 educational leader’s subjective points of view using both qualitative and quantitative approaches (Brown, 1997; Stephenson, 1953). The research felt QM presented a unique methodological approach to study human opinion (McKeown & Thomas, 2013). Subjective human opinion, such as the one proposed for this study focused on K-12 educational leader understanding of career readiness, is crucial to the implementation of college and career ready culture in K-12 schools. The researcher felt that if K-12 educational leaders understood career readiness differently than what is currently presented in K-12 education (i.e. ACT WorkKeys, ACTE, Conley), then effective implementation of K-12 college and career ready cultures may be jeopardized if K-12 educational leaders understand career readiness differently than their colleagues or business partners across the community, state, or even country. Further, the researcher believed that K-12 educational leader perspectives about career readiness might be different than perspectives from those hiring students upon graduation, such as businesses or companies, or even accepting students into two or four year colleges. If researchers have an idea about how K-12 educational leaders understand career readiness, then perhaps an appropriate culture of K-12 college and career readiness can be implemented more effectively so all students are successful upon graduation from high school.

QM provides a unique methodological opportunity for an intensive analysis of how K-12 educational leaders understand the concept of career readiness. QM brings qualitative research into the quantitative domain (McKeown & Thomas, 2013). In
quantitative research, heavy emphasis on statistical analysis often draws away interest from qualitative researchers as quantitative research misses the intimate, lived experiences of people (McKeown & Thomas, 2013). In QM, participants are as more than just data points and have an opportunity to present their voice by answering open-ended questions and through their subjective selection and placement of Q statements. Opinions and understandings of career readiness are at the core of this study and not predetermined. QM provides an entry point into the subjective world of K-12 educational leadership, and provides quantitative and qualitative means for making subjective understandings objective (Brown, 1996).

K-12 educational leaders (i.e. superintendents, principals, teacher leaders, school counselors, and even educational consultants) assign their understanding of career readiness by investigating their personal thoughts and individual situations about career ready students. QM assumes reliability as the methodology uses a small number of participants and allows for a large number of statements that represent values, attitudes, or traits related to career readiness (Watts & Stenner, 2012). In terms of validity, QM participants have an opportunity to rank order Q statements according to their own personal values and attitudes that minimizes researcher bias (Brown, 1996). K-12 educational leaders express their personal subjective ideas about career readiness related to these statements that is why QM is a useful research method for this particular study (Stenner & Stainton Rogers, 2004).
Details about QM

As mentioned in Chapter 1, QM was used by the researcher as an experimental research method to discover and explore patterns of shared viewpoints, attitudes, beliefs, opinions, and other subjective aspects of social life (Shemmings, 2006). QM has become of much interest in social sciences, specifically political science, nursing, and counseling, as it allows researchers to study the attitudes of their participants (Petit dit Dariel, Wharrard, & Windle, 2010; Watts & Stenner, 2012). Some researchers actively promote QM as a mixed method (Newman & Ramlo, 2010) where respondents participate by sorting different subjective statements provided by the researcher in accordance with how an individual might rate themselves to the statements offered by the researcher (Shemmings, 2006). These statements referred to as Q-statements followed by a Q-sorting procedure (Simons, 2013).

In QM, a research hypothesis is discovered rather than tested since the methodology is based on a participant’s subjective viewpoint (Watts & Stenner, 2012). QM does not prove or disprove how K-12 educational leaders understand career readiness; rather QM helps researchers discover subjective patterns of career readiness within and among the group of participants. In this study, the researcher used QM to discover K-12 educational leader opinion about career readiness as opposed to testing a hypothesis about their perspectives of career readiness.

In QM, individual similarities rather than individual differences are the primary focus (Stephenson, 1953). Individual similarities are correlated into factor groupings and
intra-individual similarities replace individual opinion entirely. Data matrices are used to correlate individuals based on their subjective opinions (Brown, 1980).

As mentioned previously, QM has advantages of both qualitative and quantitative methodologies. In qualitative methodology, QM produces rich data with meaningful statements provided by participants in the Q-sorting process. In quantitative research, QM analyzes data using correlation and factor analysis to find patterns of perspectives allowing researchers an opportunity to explore emerging themes. Using factor analysis groups of participants are identified to help provide the researcher with a rigorous method of examining subjective viewpoints (Watts & Stenner, 2012). To conduct a QM study the researcher involved the following steps: (1) definition of a concourse; (2) development of Q-set; (3) selection of P-set; (4) Q-sorting; (5) data analysis; and (6) data interpretation.

**Developing a Concourse**

In QM, concourse refers to the current conversations or discussions surrounding a topic in everyday life (Stephenson, 1978). The concourse is a methodological term to describe the assembly of all the possible statements made about a particular subject. To begin developing a concourse, the researcher asked herself the initial research question, “how do K-12 educational leaders understand career readiness?” (Brown, 1993).

Next, the researcher reviewed all relevant aspects of the discourses related to career readiness. The researcher then drew upon a representative sample from the concourse (Stephenson, 1993). The researcher took much care to remove repetitive statements as statements should exemplify a story about career readiness grounding the entire study (McKeown & Thomas, 2013).
In this study, the story of career readiness unfolds from the current conversation in K-12 education primarily discussed by ACT (2013), ACTE (2013), and Conley (2010) as well as identified aspects of career as a lifelong process, as represented by vocational psychology’s theory of career construction (Savickas, 2005), and self-efficacy, as represented by social cognitive career theory (Lent et al., 1994). The concourse consists of opinions about career readiness not facts (Brown, 1993). The researcher conducted a verbal concourse obtained by talking with K-12 educational leaders, observing K-12 educational setting, popular literature, news reports, newspapers, magazines, novels, and scientific literature (i.e., papers, essays, books). The statements gathered represented a full story of the existing opinions and arguments about the topic of career readiness. The researcher then used this material as the raw statements for Q (Brown, 1993).

According to Brown (2000), the Q-set of statements usually consist of about forty to fifty statements depending on the question asked and the researcher. Again, the statements are completely subjective since they are entirely based upon K-12 educational leader perspectives about career readiness.

**Developing the Q-set**

QM provides an opportunity to gather K-12 educational leader subjective opinions about career readiness based upon the statements gathered in the concourse (Brown, 1970). This idea is grounded in sampling theory which provides K-12 educational leaders an opportunity to generalize back to the presented concourse from which stimulus statements are collected (Hammond, 1998). According to Stephenson
(1953), QM focuses on not generalizing a phenomenon to an entire population but on generalizing back to the concourse.

The principles of the experimental design that exist secure representative stimuli in relation to the concourse (Brown, 1980). In this study, the researcher drew Q samples from literature around the multitude of perspectives existing about the construct of career from K-12 education and vocational psychology (ACT, 2013; ACTE, 2013; Conley, 2010; Lent et al., 1994; Savickas, 2005). The researcher then analyzed the literature to identify themes about career readiness. The results of this analysis provided the basis for the researcher’s concourse about how K-12 educational leaders might understand career readiness.

Once the concourse was identified, a subset of statements, or Q-set, was drawn to be presented to participants. An example of a question within the Q-set might be the statement “plans for future work opportunities” in which a participant would then subjectively sort according to their understanding of career readiness.

The number of statements needed in a Q-sort has been frequently discussed (Dziopa & Ahern, 2011; Taylor, Delprato, & Knapp, 1994). Researchers suggest Q-studies use as few as eighteen statements (Taylor et al., 1994) to as many as one hundred and forty (Dziopa & Ahern, 2011). Brown (1993) suggests reflecting upon the main goal of QM as a holistic process to narrow down statement selections. Watts and Stenner (2012) suggest the P-set should be less than the number of items in the Q-set. To these expectations, the researcher narrowed down 35 statements reflective of career readiness from both K-12 and vocational psychology to provide to a group of 24 participants.
constituting the P-set. Brown (1993) also suggests the selection of statements to include in the Q-set is more of an art than a science. That is, the selection of a representative concourse should have themes emerge from additional examination. Once the statements were finalized and randomly assigned a number by the researcher, the study’s participants were ready for the Q-sorting process.

**Selection of the P-set**

K-12 educational leaders, such as educational consultants, superintendents, principals, teacher leaders, school counselors, curriculum directors, or other type of self-identified K-12 educational leaders (i.e. educational coordinator, computer education, etc.), volunteered to complete a Q-sort are known as the P-set (Stephenson, 1953). Researchers suggest a Q-sort works best when the P-set has between forty to sixty individuals (Brown, 1993; Watts & Stenner, 2012). Brown (1993) finds most times the number in a P-set is usually more than adequate and considers the possibility of far fewer participants who might be needed for study. In QM, the researcher’s focus was not how many K-12 educational leaders participated in the study, but rather the quality of their differing viewpoints regarding career readiness (Akhtar-Danesh, Baumann, & Cordingley, 2008).

The researcher used the principles of the experimental design in selecting the study’s P-set (Brown, 1980). Participants volunteering for the study were assumed to be K-12 educational leaders in their current work roles and possibly enrolled in either a master or doctoral level course in Educational Administration or Educational Studies.
program. Brown (1980) notes the total number of participants for QM does not need to be extensive since both the P-set and Q-set are variable.

The P-set was a structured sample of participants who self-identified as K-12 educational leaders, also possibly enrolled in either a master or doctoral level course in Educational Administration or Educational Studies program at a public state university or working in a non-profit K-12 educational organization, and all of whom have volunteered to participate in the study. Participants self-reported current or prior experience in K-12 education as superintendents, principals, teacher leaders, directors of curriculum and instruction, career technical teacher leaders, school counselors, K-12 educational consultants, or anyone influencing college and career readiness in K-12 education.

Participants are expected to have a distinct perspective about career readiness (Brown, 1993). Brown (1993) suggests researchers identify subject matter experts to determine if the P-set is appropriate. For example, in asking “how do K-12 educational leaders understand career readiness?”, a researcher might identify superintendents, principals, teacher leaders, directors of curriculum and instruction, career technical teacher leaders, or school counselors to create a wide variety of viewpoints about the career readiness story being explored. In this study, the researcher had the opportunity during the course of her professional experience in K-12 education to gather these insights. QM attempts to identify typical understandings of career readiness from the participants as opposed to finding the amount of individuals with specific viewpoints (Brown, 1993).
Q-sorting

After the Q-set and P-set have been identified, K-12 educational leaders were instructed by the researcher to rank the statements according to the question, “how do K-12 educational leaders understand career readiness?” K-12 educational leaders sort their viewpoints ranging from most to least agree; that is, “most like” to “most unlike.” This forced choice method takes on the form of a quasi-normal distribution curve (Stephenson, 1993). The kurtosis of the distribution depends on the interest and knowledge of the participants (Brown, 1993).

Next, participants were asked by the researcher to carefully read all statements to get an understanding of the range of perspectives about career readiness (Brown, 1993). Once an impression is made, participants then rank order the statements according to their understanding of career readiness by documenting them on a score sheet provided by the researcher (Figure 1). Once the statements were rank ordered by the participant, Brown (1993) recommends the researcher ask follow-up questions to allow explanation of the most noticeable statements at the end of each continuum (i.e., most like or most unlike). These follow-up questions are useful for later interpretation of the factors presented in the data analysis (Stephenson, 1993).

Research Instruments

In this study, approximately two to three hundred statements could have been identified. However, after over 15 years of research and analyses, the researcher effectively derived statements about the current understanding of career readiness from K-12 education’s ACT’s WorkKeys (2013), ACTE (2013), and Conley’s Four Key
Dimensions of College and Career Readiness (2011) as well as elements from the theory of career construction (Savickas, 2005) and social cognitive career theory (Lent et al., 1994) to include aspects of vocational psychology’s view on career as a lifelong construct. According to Brown (1993), Q statements may not fit agreeably in specific categories and may be grouped in different categories providing diversity and eliminating repetition.

To guide this diversity and elimination of repetition, the researcher used guiding principles from both fields of K-12 education (ACT WorkKeys, ACTE, Conley) and vocational psychology (theory of career construction, social cognitive career theory) to organize statements reflecting the current understanding of career readiness in K-12 education. Several statements overlapped and occurred in more than one area, so the researcher grouped statements together according to the statements using the two guiding principles. With each statement in one of the two categories, redundant statements diminished. The statements finally selected provided a diverse story about career readiness.

Below is the list of Q-sort statements used in this study. Attributed work for each statement is included in parenthesis; however it is not included in the actual statements provided to participants. It is only provided for a better understanding of research instrument presented.

**Q-sort Statements**

1. Formulates problems using hypothesis/strategy. (Conley – Cognitive)\(^{12}\)

---

\(^{1}\) In this study, statements were not numbered randomly as they were already randomly grouped together according to guiding perspectives about career readiness.
2. Researches by identifying/collecting information. (Conley – Cognitive)
3. Interprets by analyzing/evaluating information. (Conley – Cognitive)
4. Constructs and organizes ideas to effectively communicate. (Conley – Cognitive)
5. Is precise and accurate in their work by monitoring/confirming information. (Conley – Cognitive)
6. Structures knowledge using key terms, facts, ideas, organizing concepts. (Conley – Content Knowledge)
7. Has a positive attitude toward learning new content: increases challenges and effort. (Conley – Content Knowledge)
8. Has technical knowledge and skills (Conley – Content Knowledge)
9. Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress. (Conley – Learning Skills & Techniques)
10. Has learning techniques such as time management, test taking skills, note taking skills, memorization/recall, strategic reading, and collaborative learning. (Conley – Learning Skills & Techniques)
11. Aspires and understands expected societal norms/culture. (Conley – Transition Knowledge & Skills)
12. Pursues admissions for further education or training. (Conley – Transition Knowledge & Skills)

\(^2\) Statements did not include research reference, i.e. Conley – Cognitive. Only for reference purposes.
13. Understands financial aspects (i.e. tuition, financial aid) to apply for further education or training. (Conley – Transition Knowledge & Skills)

14. Understands norms related to environment in further education or training. (Conley – Transition Knowledge & Skills)

15. Advocates for oneself within an institutional context. (Conley – Transition Knowledge & Skills)

16. Has academic skills necessary to succeed beyond high school. (ACTE – Academic Skills)

17. Has employable skills such as critical thinking, problem-solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and ethics. (ACTE – Employability)

18. Has technical skills necessary to succeed, such as licensure or credentials in particular profession or on-the job training. (ACTE – Technical Skills)

19. Has specific foundational skills, such as applied math, business writing, workplace observations (ACT WorkKeys – Foundational Skills)

20. Fits well into post high school environment, such as public contact, autonomy, ability to influence others, put things into order, thinks about difficult concepts/tryed to solve them, very precise in one’s work, thinks creatively (ACT WorkKeys – Soft Skills/Fit)

21. Performs in activities as positive general work attitudes reflected by low prevalence of theft, high productivity, supervisor ratings, low absenteeism, high
resilience to work-related stress, team oriented, and high employee work satisfaction. (ACT WorkKeys – Soft Skills/Performance)

22. Avoids work related accidents and unnecessary risk taking in a work environment reflected by low work related accidents, working under the influence of drugs/alcohol, outbursts of physical/verbal aggression, coworker complaints about conduct (ACT WorkKeys – Soft Skills/Performance)

23. Exhibits talent in work discipline, teamwork, managerial potential, and customer service orientation (ACT WorkKeys – Soft Skills/Talent)

24. Imposes meaning and direction on work (Theory of Career Construction – Life Themes)

25. Understands one’s abilities, needs, values, interests to socially construct a career (Theory of Career Construction – Vocational Personality)

26. Develops a career reputation (CCT – Vocational Personality)

27. Concerned about future (CCT – Career Adaptability)

28. Curious about future (CCT – Career Adaptability)

29. Feels in control of future (CCT – Career Adaptability)

30. Has confidence in future (CCT – Career Adaptability)

31. Cooperates with others (CCT – Career Adaptability)

32. Has learning experiences that impact self-efficacy and outcomes (SCCT – Learning experiences)

33. Believes in oneself and ability to organize/execute (SCCT – Self-Efficacy)

34. Believes in consequences from one’s actions (SCCT – Outcome Expectations)
35. Determined to engage in activities and produce particular outcomes (SCCT – Goals)

In addition to the research instrument, a demographic survey was used to identify gender, age, ethnicity, job description, years of experience in K-12 education, highest degree held, and degree major. Both research instruments were used to explore how K-12 educational leaders understand career readiness and discover subjective patterns related to emerging Q factors.

**Data Analysis and Interpretation**

Analyzing and interpreting Q-sort data is a technical and objective process (Brown, 1993). Using PQ Method software (Schmolck, 2002), the researcher analyzed a correlation matrix of the individual Q-sorts calculated by reflecting the level of agreement or disagreement between individual sorts (Stenner & Stainton Rogers, 2004). The correlation matrix was then subjected to a factor analysis to identify the number of natural similar or dissimilar Q-sort groupings. In reviewing the data, the researcher identified that individuals with similar views about career readiness shared the same
factor (Brown, 1993; Stephenson, 1993). Correlation coefficients were calculated using by-person factor analysis between individual Q-sorts to help identify common viewpoints (Akhtar-Danesh et al., 2008). Individual Q-sorts with a significant correlation between each other will produce a factor (Akhtar-Danesh et al., 2008). An analysis of the individual Q-sorts may provide a number of factors identifying a particular group of respondents exhibiting similar views, feelings, and experiences about their understanding of career readiness. This original set of factors was then rotated to arrive at a final set of factors. Factor rotations can be objective, and by rotating the factors, the sphere of opinions was examined by the researcher from many different angles looking to confirm theoretical perspectives (Brown, 1993).

The next step of the factor rotation was to preserve as much of the variance as possible (Watts & Stenner, 2012). Watts & Stenner (2012) note no more than seven rotations is sufficient. Factor loadings are correlation coefficients that correlate each Q-sort with a factor (Brown, 1993; Watts & Stenner, 2012). If a factor loading is high, then it would be considered highly correlated with a particular factor or view. Using this format, the researcher noted Q-sorts with similar viewpoints about career readiness would be highly correlated together sharing the same factor (Watts & Stenner, 2012). Factor rotations do not affect the consistency in perspectives of Q-sorts, only shift the perspectives from which they are observed (Stephenson, 1993).

A factor extraction process was ensued by the researcher during the factor rotation using either a Principal Component Analysis (PCA) or Centroid analysis. PCA assumes participants sort themselves identically every time. However, since participants are
people, the researcher assumed it would be unlikely a participant would sort items in their Q-sort the exact same way every time (Watts & Stenner, 2012). Since it is unlikely that a participant would sort their items identically every time in a Q-sort, a centroid extraction with a hand rotation was preferred (Watts & Stenner, 2012). A centroid extraction allows the researcher to explore factors using prior knowledge on the subject of career readiness (Stephenson, 1953; Watts & Stenner, 2012). As data was extracted, a hand rotation was also used to allow the researcher to use his or her prior knowledge about career readiness and K-12 educational leaders (Brown & Robyn, 2004).

Once factors were identified, factor scores were used to create a representation sort for each factor. Using the factor scores, a representative sort was identified as a representation of those participants who sorted in a similar fashion (Watts & Stenner, 2012). Each representative sort was a reflection of a particular factor’s point of view or accumulation of participants’ point of views. This will be later explained in Chapter 4. In QM, factor analysis provides the researcher with an idea of how many factors might exist pertaining to a particular subject such as career readiness in K-12 education. Once the researcher identifies how many factors exist, he or she identifies participants who might best represent a particular factor. PQ Method software (Schmolck, 2002), discussed later in this chapter, is used to help flag participants who load heavily on a particular factor.

The researcher then proceeded with the qualitative side of QM by interviewing participants and having them complete open ended questions about their Q-sorts. In a quantitative and qualitative sense, an investigation of what is most important to
participants with respect to career readiness in K-12 education is developed (Brown, 1980, 1993).

For the purpose of this study, the researcher using the guiding conversations about career readiness from the fields of K-12 education and vocational psychology created a Q-set of thirty-five statements. A demographic instrument was used to gather gender, age, ethnicity, positions held in education, and years of experience in education. K-12 educational leaders were asked to complete the demographic survey after finishing sorting Q statements. Open-ended questions relating to choice of sort position (+4/most like, -4/most unlike) were presented to participants for completion to allow for additional clarification regarding their Q-sorts.

**PQMethod Software**

The software used most frequently used to analyze Q-sort data is PQMethod (Schmolck, 2002; Watts & Stenner, 2012). PQMethod is a free statistical program, initially written by John Atkinson for Kent State University’s IBM mainframe computer, later modified by Peter Schmolck (2002) for PCs and Macs, under the guidance of Dr. Steven Brown, instrumental in the field of QM (Brown, 1980). Using PQMethod, the researcher can enter individual Q-sorts and then compute correlations between individual Q-sorts which are then factor analyzed. Once factors are produced, the researcher then identifies which factors load most heavily in order to begin factor rotation (Schmolck, 2002).
Limitations of QM

In QM, factor arrays are generalizations of the way in which different segments of K-12 educational leaders think about career readiness (Brown, 1993). This is different from R-methodology, often contrasted with Q-methodology, where testing a theory is determined by prior assumptions which have already been built into the test (McKeown & Thomas, 2013). QM is different in that it is a reflection of individual, subjective viewpoints (Watts & Stenner, 2012). This limitation should not raise much concern since the results are the distinct views of K-12 educational leaders about a topic operating within the group (Brown, 1980). QM results are not a sample of the general population; rather, the holistic viewpoints of a group of K-12 educational leaders.

Another limitation to this study is the participants themselves. While all participants who volunteered for the study fell under the umbrella of K-12 educational leader, specific focus on a particular group of K-12 educational leaders (i.e. principals only, school counselors only) may reveal additional views about career readiness. Further, the number of participants selected might be a concern. In this study, there are twenty-four participants sorting thirty-five statements in a Q-sort. Watts and Stenner (2012) suggest researchers use half the amount of participants of the total number of statements in the study. That is, if a study has 40 statements the participant size be half, 20, or less a large number of participants may cause an additional factors (Watts & Stenner, 2012). To avoid complications in this respect, a centroid extraction with hand rotation was used to adjust for viewpoints accordingly based on the researchers own understanding of career readiness and prior knowledge about the participants.
A final issue of concern is the actual hand rotation which is not an automatic process conducted by PQMethod. It is a manual process and can be difficult for first time users. To avoid this obstacle, the researcher practiced and researched centroid extractions with hand rotations with respect to QM in order to gain intermediate expertise of the procedure.

**Summary**

QM provides researchers with an empirical approach to study “how do K-12 educational leaders understand career readiness?” (McKeown & Thomas, 2013). This chapter provides general information about QM and how this study anticipates discovering the subjective viewpoints of K-12 educational leaders about career readiness. Content from the fields of K-12 education (ACT WorkKeys, 2013; ACTE, 2013; Conley, 2010) and vocational psychology (CCT, Savickas, 2005; SCCT, Lent et al., 1994) were used to create a concourse of statements about career readiness for K-12 educational leaders to sort according to their viewpoints. From start to finish, developing a concourse, Q-set, P-set, Q-sort, analyses, and interpretation were explained. Chapter 4 will further discuss actual details regarding the data collection, analysis, interpretation, and results.
Chapter 4: Data Collection, Analysis, and Interpretation

Introduction

This purpose of this study is to investigate how K-12 educational leaders understand career readiness in order to get an idea of their subjective viewpoints. Chapter 4 begins with a description of the study conducted leading to a final analysis of the subjective viewpoints of K-12 educational leaders related to career readiness.

Demographics

Participants volunteering for this study were identified at a Midwest university’s College of Education master’s or doctoral level courses in Educational Administration or Educational Studies or Midwest non-profit K-12 educational organization to capture subjective viewpoints of K-12 educational leaders understanding of career readiness. Participants were invited to participate in a study on how K-12 educational leaders understand career readiness. Potential participants were approached by the primary investigator in-person. No emails or recruitment posters were used. The primary investigator visited Educational Administration or Educational Studies masters or doctoral level courses and invited potential participants to volunteer to take part in a study to help society and K-12 educators better understand career readiness in K-12 education. The same process took place when visiting participants at the K-12 non-profit educational organization. In both instances, participants self-identified as K-12 educational leaders in current or prior roles as educational consultant, superintendent, principal, teacher leader, school counselor, curriculum director, or other type of self-identified K-12 educational leader (i.e. educational coordinator, computer education,
etc.). As such, they are ideal for research collection in this study. In addition, the primary investigator in person at the non-profit K-12 education organization approached potential participants where the primary investigator is employed. Again, no emails or recruitment posters were used. Within this K-12 educational non-profit organization, potential participants also fit the definition of “educational leaders” such as K-12 educational consultant, superintendent, principal, teacher leader, school counselor, or curriculum director. As such, they are also ideal for research collection in this study.

Table 1

Demographics of the P-set

<table>
<thead>
<tr>
<th>Role</th>
<th>% of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Consultant</td>
<td>29%</td>
</tr>
<tr>
<td>Other (i.e. Director of Curriculum, School Counselor, Special Education, Reading Specialist)</td>
<td>37%</td>
</tr>
<tr>
<td>Principal</td>
<td>20%</td>
</tr>
<tr>
<td>Superintendent</td>
<td>4%</td>
</tr>
<tr>
<td>Teacher Leader</td>
<td>8%</td>
</tr>
<tr>
<td>Master's degree or better</td>
<td>91%</td>
</tr>
<tr>
<td>Male</td>
<td>25%</td>
</tr>
<tr>
<td>Female</td>
<td>75%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>92%</td>
</tr>
<tr>
<td>African-American</td>
<td>8%</td>
</tr>
<tr>
<td>Years in Education</td>
<td>2 to 42 years</td>
</tr>
<tr>
<td>Total Number of Participants</td>
<td>24</td>
</tr>
</tbody>
</table>
Data Collection

Data for this study was collected during the 2015 summer semester. Participants volunteering for the study were provided with a consent form, demographic questionnaire (see Appendix 2), and Q-sort with open-ended questions (see Appendix 1). The researcher stated, face-to-face, that participants may be asked to participate in follow-up questions (in the future once the data was analyzed) to help the researcher gain a better understanding of their particular viewpoint with respect to how K-12 educational leaders understand career readiness.

Participants were provided a Q-sort (see Appendix 1) then asked to sort statements developed from the concourse about how K-12 educational leaders understand career readiness. Participants were asked to sort according to how much the statement was most like or most unlike career readiness. A total of 35 statements were provided and participants were instructed to place statement numbers on the provided scoring sheet from most like to most unlike career readiness based on their personal perspective (i.e. #1 for “Formulates problems using hypothesis/strategy”). Participants were also asked to complete the open-ended questions to help provide insight into their reasoning behind choosing most like and most unlike statements at the extremes of the continuum. This provided the researcher with an opportunity for clearer insight regarding the different thoughts emerging about how K-12 educational leaders understand career readiness. The sorting grid used in this study is shown in Figure 1 in Chapter 3. The Q-sorting process provides the participants an opportunity to consider each statement in relation to the other.
statements, helping them to focus on their own personal subjectivity when it comes to career readiness (Watts & Stenner, 2012).

Data Analysis and Interpretation

The researcher analyzed the data using PQMethod (Schmolck, 2002) and entered each Q-sort by hand into the software for analysis. The researcher decided to use a centroid factor extraction with a hand rotation recommended by Stephenson (1953) and Brown (1980) as participants generating Q-sorts had influence in K-12 education with respect to the implementation of college and career readiness in schools (Watts & Stenner, 2012). A centroid extraction with a hand rotation provides a more accurate picture about viewpoints concerning career readiness since the researcher is familiar with the participants and subject matter at hand (Watts & Stenner, 2012).

To begin the process, an analysis of the correlation matrix between Q-sorts was studied to discover the extent and nature of the relationships among all Q-sorts in the study. For this study, factor loadings exceeding 2.58 times the standard error (SE) where considered significant at the 0.01 level; or $2.58 \times 1/\sqrt{35}$. Those Q-sorts that fell at .43 or higher were considered statistically significant, $r(35) = .436, p < 0.01$. Next, an unrotated factor matrix was analyzed to discover the extent to which each Q-sort was associated with each of the study factors following extraction before the hand rotation took place. These factor loadings illustrated the extent to which subset of Q-sorts represented or considered typical of a particular factor. For example, the researcher was able to determine for Q-sort #10, Factor 1 accounted for approximately 52% of its variance.

Table 2 below provides the eigenvalues from the unrotated correlation matrix where each
presented factor explains a percentage of the study variance. In this study, 43% of the study variance was explained by the factors which were well within the 35-40% range expected by Watts and Stenner (2012). Further, three of the four eigenvalues exceeded 1.00 which is considered significant for those factors and helping to determine further how many factors to consider in this study. QM encourages researchers to extract and retain factors where the eigenvalue is higher than 1.00 (Watts & Stenner, 2012).

Table 2.

<table>
<thead>
<tr>
<th>Factor to Determine Factors</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eigenvalue</td>
<td>5.1250</td>
<td>2.8699</td>
<td>0.2968</td>
<td>2.1922</td>
</tr>
<tr>
<td>% Explained Variance (Unrotated Factor Matrix)</td>
<td>21</td>
<td>12</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 2.

Eigenvalues to Determine Factors

Next, a centroid extraction with a hand rotation was completed to explore the extent to which each Q-sort associated with each of the study factors. The centroid extraction leaves all possible solutions open to the researcher by exploring through rotation best criteria for making decisions regarding factors (Watts & Stenner, 2012). Q-sorts defining a particular factor as well as mixed cases were flagged with an X (Brown, 1980; McKeown & Thomas, 1988). Table 2 describes those factors on which particular Q-sorts were flagged. It is also recommended to extract a factor for every 6 to 8 participants consistent with the current study of 24 participants (Brown & Robyn, 2004; Watts & Stenner, 2012).
Table 3 provides information regarding the correlation between factor scores which is the extent to which each factor inter-correlates with each other. Watts and Stenner (2012) expect factor scores should have little in common or be less than the significant correlation loading between factor scores, as previously mentioned, $r(35) = .436$, p $< 0.01$. Correlations lower than $r(35) = .436$ indicates a clear line between factors.

### Table 3.  
*Factor Matrix where X Indicates a Defining Q-sort*

<table>
<thead>
<tr>
<th>Q-sort</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.2242</td>
<td>0.0097</td>
<td>-0.5962X</td>
</tr>
<tr>
<td>2</td>
<td>0.1184</td>
<td>-0.0614</td>
<td>-.4114</td>
</tr>
<tr>
<td>3</td>
<td>.4427X</td>
<td>-0.1602</td>
<td>0.3725</td>
</tr>
<tr>
<td>4</td>
<td>0.0700</td>
<td>-0.0511</td>
<td>-.4480X</td>
</tr>
<tr>
<td>5</td>
<td>.4985X</td>
<td>0.3370</td>
<td>-0.3001</td>
</tr>
<tr>
<td>6</td>
<td>0.2898</td>
<td>-0.2382</td>
<td>.5105X</td>
</tr>
<tr>
<td>7</td>
<td>.4991X</td>
<td>0.2461</td>
<td>0.2900</td>
</tr>
<tr>
<td>8</td>
<td>0.2831</td>
<td>-0.6565X</td>
<td>-0.2564</td>
</tr>
<tr>
<td>9</td>
<td>.5203X</td>
<td>.4468X</td>
<td>0.3212</td>
</tr>
<tr>
<td>10</td>
<td>.7206X</td>
<td>0.0862</td>
<td>0.1517</td>
</tr>
<tr>
<td>11</td>
<td>.5021X</td>
<td>-.5247X</td>
<td>-0.1653</td>
</tr>
<tr>
<td>12</td>
<td>.6142X</td>
<td>-0.0648</td>
<td>0.2139</td>
</tr>
<tr>
<td>13</td>
<td>.7870X</td>
<td>-0.2080</td>
<td>0.1205</td>
</tr>
<tr>
<td>14</td>
<td>.5747X</td>
<td>.4933X</td>
<td>-0.3071</td>
</tr>
<tr>
<td>15</td>
<td>.5658X</td>
<td>-0.2779</td>
<td>-0.0538</td>
</tr>
<tr>
<td>16</td>
<td>0.2325</td>
<td>0.0813</td>
<td>-0.3765</td>
</tr>
<tr>
<td>17</td>
<td>0.2006</td>
<td>0.3749</td>
<td>.4660X</td>
</tr>
<tr>
<td>18</td>
<td>.5986X</td>
<td>0.0418</td>
<td>0.0303</td>
</tr>
<tr>
<td>19</td>
<td>.4433X</td>
<td>-0.6594</td>
<td>0.2177</td>
</tr>
<tr>
<td>20</td>
<td>.5932X</td>
<td>-0.2808</td>
<td>-0.0523</td>
</tr>
<tr>
<td>21</td>
<td>0.0765</td>
<td>.4293X</td>
<td>0.2999</td>
</tr>
<tr>
<td>22</td>
<td>.4381X</td>
<td>0.3536</td>
<td>0.0836</td>
</tr>
<tr>
<td>23</td>
<td>.5326X</td>
<td>-0.2681</td>
<td>-0.0422</td>
</tr>
<tr>
<td>24</td>
<td>0.1639</td>
<td>.5308X</td>
<td>-0.0891</td>
</tr>
</tbody>
</table>
for beginning interpretation. That is, the factors between themselves have nothing in common.

Table 4.

Correlation between Factor Scores

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.0000</td>
<td>-0.1686</td>
<td>0.1252</td>
</tr>
<tr>
<td>2</td>
<td>-0.1686</td>
<td>1.0000</td>
<td>0.0749</td>
</tr>
<tr>
<td>3</td>
<td>0.1252</td>
<td>0.0749</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

* p < .01

To further assist with data analysis of potential factors, researchers are encouraged to review the consensus and distinguishing factor statements, which provides a picture of common and differentiating themes between factors (Brown, 1980; McKeown & Thomas, 1988). This approach follows suit with Stephenson’s (1953) pursuit of holism where researchers are interpreting the entire configuration presented to them. Specifically, distinguishing statements provide the researcher with a list of all the items that a particular factor has ranked as significantly different from all other factors (Watts & Stenner, 2012). Consensus statements provide the researcher with an idea of all the items in the Q-set that all factors agreed the most. These are items that stimulated the most agreement among the Qsorts. Table 4 below displays the factor Q-sort values of statements that appear ideal in the ideal sort of each factor. Distinguishing statements are in bold while consensus statements are in italics.
Table 5.

*Factor Q-sort Values*

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Factor Arrays</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Formulates problems using hypothesis/strategy.</td>
<td>-1  -4  1</td>
</tr>
<tr>
<td>2</td>
<td>Researches by identifying/collecting information.</td>
<td>-1  -4  2</td>
</tr>
<tr>
<td>3</td>
<td>Interprets by analyzing/evaluating information.</td>
<td>2  -4  3</td>
</tr>
<tr>
<td>4</td>
<td>Constructs and organizes ideas to effectively communicate.</td>
<td>4  -2  4</td>
</tr>
<tr>
<td>5</td>
<td>Is precise and accurate in their work by monitoring/confirming information.</td>
<td>2  -3  3</td>
</tr>
<tr>
<td>6</td>
<td>Structures knowledge using key terms, facts, ideas, organizing concepts.</td>
<td>-1  -3  2</td>
</tr>
<tr>
<td>7</td>
<td>Has a positive attitude toward learning new content.</td>
<td>3  -1  -3</td>
</tr>
<tr>
<td>8</td>
<td>Has technical knowledge and skills.</td>
<td>0  -2  -1</td>
</tr>
<tr>
<td>9</td>
<td>Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress.</td>
<td>4  0  -2</td>
</tr>
<tr>
<td>10</td>
<td>Has learning techniques such as time management, test taking skills, note taking skills, memorization/recall, strategic reading, and collaborative learning.</td>
<td>3  -1  -2</td>
</tr>
<tr>
<td>11</td>
<td>Aspires and understands expected societal norms/culture.</td>
<td>0  -1  0</td>
</tr>
<tr>
<td>12</td>
<td>Pursues admissions for further education or training.</td>
<td>-2  0  -4</td>
</tr>
<tr>
<td>13</td>
<td>Understands financial aspects (i.e. tuition, financial aid) for further education or training.</td>
<td>-3  -2  -4</td>
</tr>
<tr>
<td>14</td>
<td>Understands norms related to environment in further education or training.</td>
<td>-3  -1  -3</td>
</tr>
<tr>
<td>15</td>
<td>Advocates for oneself within an institutional context.</td>
<td>-2  0  -1</td>
</tr>
<tr>
<td>16</td>
<td>Has academic skills necessary to succeed beyond high school.</td>
<td>1  -3  -1</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Score</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>17</td>
<td>Has employable skills such as critical thinking, problem-solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and/or ethics.</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>Has technical skills necessary to succeed, such as licensure or credentials in particular profession or on-the job training.</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>Has specific foundational skills, such as applied math, business writing, workplace observations.</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>Fits in well with post high school environment, such as autonomy, ability to influence others, able to put things into order, thinks about difficult concepts/tried to solve them, very precise in one’s work, thinks creatively.</td>
<td>3</td>
</tr>
<tr>
<td>21</td>
<td>Performs in activities with a positive general work attitude reflected by low prevalence of theft, high productivity, low absenteeism, high resilience to work-related stress, team oriented, and high work satisfaction.</td>
<td>2</td>
</tr>
<tr>
<td>22</td>
<td>Avoids work related accidents and unnecessary risk taking in a work environment as reflected by low work related accidents, working under the influence of drugs/alcohol, outbursts of physical/verbal aggression, coworker complaints about conduct.</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>Exhibit talent in work discipline, teamwork, managerial potential, and customer service orientation.</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>Imposes meaning and direction on work.</td>
<td>-2</td>
</tr>
<tr>
<td>25</td>
<td>Understands one’s abilities, needs, values, interests to socially construct a career.</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>Develops a career reputation.</td>
<td>-4</td>
</tr>
<tr>
<td>27</td>
<td>Concerned about future.</td>
<td>-4</td>
</tr>
<tr>
<td>28</td>
<td>Curious about future.</td>
<td>-4</td>
</tr>
<tr>
<td>29</td>
<td>Feels in control of future.</td>
<td>-3</td>
</tr>
<tr>
<td>30</td>
<td>Has confidence in future.</td>
<td>-2</td>
</tr>
<tr>
<td>31</td>
<td>Cooperates with others.</td>
<td>2</td>
</tr>
<tr>
<td>32</td>
<td>Has learning experiences that impact self-efficacy and outcomes.</td>
<td>-1</td>
</tr>
<tr>
<td>33</td>
<td>Believes in oneself and ability to organize/execute.</td>
<td>1</td>
</tr>
<tr>
<td>34</td>
<td>Believes in consequences from one’s actions.</td>
<td>0</td>
</tr>
<tr>
<td>35</td>
<td>Determined to engage in activities and produce particular outcomes.</td>
<td>0</td>
</tr>
</tbody>
</table>
To better understand each participant’s sort, Brown (1980) recommends conducting a post-sort interview to get a better understanding of his or her subjective point of view. For this study, the researcher asked post-sort open ended questions on the sorting sheet where participants wrote their decision making process related to their choice of statements. These questions are provided in Appendix 1. Responses to these questions provided the researcher with an opportunity to explore common themes among the participants who sorted the statements.

**Emerging Factors**

In this study, the researcher asked 24 K-12 educational leaders to sort 35 statements according to personal viewpoints about career readiness. Data analysis using PQMethod (Schmolck, 2002) resulted in three factors which held five interpretable perspectives overall.

**Factor 1: “It’s All About The Skills”**

Of the 24, 15 were represented on Factor 1 or what the researcher has named the “It’s All About The Skills” group (see Figure 2). These K-12 educational leaders view career readiness as having employable technical and learning skills, taking ownership of one’s learning, being able to effectively communicate, having a positive attitude towards new challenges, and being able to learn techniques such as time management. Tables 5 and 6 provide additional information about the statements participants selected that reflect their views of most like and most unlike career readiness (Q-grid, see Figure 1) for Factor 1.
The two statements that help define this factor are statement 17 ("Has employable skills such as critical thinking, problem solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and/or ethics", part of ACTE’s (2013) employability criteria) and statement 9 ("Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress", part of Conley’s (2010) learning skills and techniques).

These statements indicate this group of K-12 educational leaders tends to view career readiness as having the appropriate skills, whether technical or learning, as being important for career readiness. This viewpoint is further supported by a written comment from Participant #18 in response to the post-sort question elaborating on their top three most like career readiness statements, placed under +4: “Taking ownership for learning (and the rest of statement 9) having employable skills and technical skills necessary to succeed are strong indicators of career readiness and success in the chosen career.”

Participant #10 also responded positively to this factor by stating, “(07) A positive attitude is crucial in life. This influences nearly everything a person does and can do. Without a positive attitude one is not life ready. (10) These skills are taught through life (i.e. school, workplace) and are important to being career ready (mostly time management). (17) These are probably most important and are strengthened during one's formal education (K-8) and 9 and higher.” Further, Participant #15 supported this view by stating, “I believe communication skills, learning strategies, and understanding of self are important.”
The “It’s All About The Skills” group also shared a favorable viewpoint of career readiness as indicated by the statements most like my view table (Table 5). These views highly concurred with K-12 education’s view of career readiness (ACTE, 2013; Conley, 2010). However, they shared a less favorable viewpoint of career readiness, as related to vocational psychology’s career development, specifically aspects of career adaptability, highlighted in the most unlike my view table (Table 6).

*Figure 2. Centroid Factor Analysis and Rotation of Participant Loadings on Factor 1*
Table 6.

*Factor 1 – “It’s All About The Skills” Top Five Most Like Statements*

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Has employable skills such as critical thinking, problem-solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and/or ethics.</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress.</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Constructs and organizes ideas to effectively communicate.</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Has a positive attitude toward learning new content: increases challenges and effort.</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Has learning techniques such as time management, test taking skills, note taking skills, memorization/recall, strategic reading, and collaborative learning.</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 7.

Factor 1 - “It’s All About The Skills” Top Five Most Unlike Statements

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Feels in control of future.</td>
<td>-3</td>
</tr>
<tr>
<td>13</td>
<td>Understands financial aspects (i.e. tuition, financial aid) to apply for further education or training.</td>
<td>-3</td>
</tr>
<tr>
<td>28</td>
<td>Curious about future.</td>
<td>-4</td>
</tr>
<tr>
<td>27</td>
<td>Concerned about future.</td>
<td>-4</td>
</tr>
<tr>
<td>26</td>
<td>Develops a career reputation.</td>
<td>-4</td>
</tr>
</tbody>
</table>

The distinguishing statements, or statements that distinguished Factor 1 from all the other factors in the study, indicated the “It’s All About The Skills” group appeared to focus on the importance of developing the appropriate technical and learning skills related to employability (Table 7). This is indicated by statement 17 (“Has employable skills such as critical thinking, problem-solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and ethics”), statement 9 (“Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress”), statement 7 (“Has a positive attitude toward learning new content: increases challenges and effort”), and statement 10 (“Has learning techniques such as time management, test taking skills, note taking skills, memorization/recall, strategic reading,
The common theme among these K-12 educational leaders is that acquiring the appropriate technical and learning skills to become employable is important when related to career readiness.

Table 8.

*Distinguishing Statements for Factor 1 - “It’s All About The Skills”*

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Factor 1 Q-grid Position</th>
<th>Factor 2 Q-grid Position</th>
<th>Factor 3 Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Has employable skills such as critical thinking, problem-solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and ethics.</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress.</td>
<td>4</td>
<td>0</td>
<td>-2</td>
</tr>
<tr>
<td>7</td>
<td>Has a positive attitude toward learning new content: increases challenges and effort.</td>
<td>3</td>
<td>-1</td>
<td>-3</td>
</tr>
<tr>
<td>10</td>
<td>Has learning techniques such as time management, test taking skills, note taking skills, memorization/recall, strategic reading, and collaborative learning.</td>
<td>3</td>
<td>-1</td>
<td>-2</td>
</tr>
</tbody>
</table>

Factor 2: “Self-Awareness & Making Meaning…More Than Just Skills”

Six of the 24 participants were represented by Factor 2 or what the researcher has named “Self-Awareness & Making Meaning…More Than Just Skills” (see Figure 3).

Table 8 and Table 9 reflect the five most like and five most unlike career readiness
statements related to this factor. Table 10 highlights the statements that distinguished Factor 2 from all other factors.

Interestingly, Factor 2 is a bipolar factor, which means that positive and negative factor loadings exist as presented in Table 2. Brown (1980) suggests this indicates internal conflict among the “Self-Awareness & Making Meaning…More Than Just Skills” group. Within Factor 2, part of the group views career readiness as having the technical skills, ability to solve problems, and skills to communicate effectively. This is represented by Participant #8’s negative factor loading (Table 2) and response to the post-sort open-ended question about what is most like career readiness, “In order to do most jobs well, you need the technical skills and ability to use information to solve problems”. Participant #9 had a positive factor loading (Table 2) and responded similarly, “technical skills can be learned and developed but the three (statements) I chose (statements 4, 9, 17) will help students be successful in any job/career.”

The other part of the group for Factor 2 viewed career readiness from a viewpoint where technical skills can eventually be learned and developed but the true focus of career readiness should be on making meaningful work and becoming life-long learners while integrating traits and skills to becoming career ready. This is exemplified by Participant #11’s negative factor loading and response, “(04) Effective communication (written and verbal) is required in every profession in modern times, especially cross-culture communication abilities, as all workers work with others. (7) Positive attitude toward learning new content allows workers to change with the times and grow in their profession, as well as take constructive criticism and guidance from leaders and
colleagues. (9) Ownership, motivation, self-awareness of strengths/weaknesses, preferences, etc. allows anyone to be a good, productive worker in any field.” Participant #21 had a positive factor loading and responded, “I think career readiness should focus on creating meaningful work and viewing oneself as lifelong learners. Also, career readiness is knowing different cultures, society norms, etc. so that all people are considered.” Thus, there appears to be conflict of viewpoints within Factor 2 among K-12 educational leaders with respect to understanding career readiness. Part of the group views technical skills as important whereas the other part viewed technical skills as something that could be developed over time with the real importance about creating meaning in one’s work.

In order to encompass the bipolar perspectives, the researcher decided to call Factor 2 “Self-Awareness & Making Meaning…More Than Just Skills”. The group’s viewpoint (positive factor loading) and core personality (negative factor loading) do not load the same on Factor 2 indicates that the group is experiencing some adjustment problems in how they understand career readiness. On one hand, the group views career readiness as having technical skills. While on the other hand, the group views career readiness as making meaningful work, becoming life-long learners, thus integrating traits and skills to becoming career ready. Ideally, this group wants to focus on technical skills, but the group is really not themselves without making work meaningful with respect to career readiness. What’s extremely intriguing about this particular group is that the top five most like statements (Table 8) indicate a lean towards vocational psychology’s social cognitive career theory (Lent et al., 1994) and theory of career construction (Savickas,
2005); especially the aspects around life themes and creating learning experiences that self-efficacy.

*Figure 3. Centroid Factor Analysis and Rotation of Participant Loadings on Factor 2*
Table 9.

**Factor 2 – “Self-Awareness & Making Meaning...More Than Just Skills” Top Five Most Like Statements**

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Imposes meaning and direction on work.</td>
<td>4</td>
</tr>
<tr>
<td>32</td>
<td>Has learning experiences that impact self-efficacy and outcomes.</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>Understands one’s abilities, needs, values, interests to socially construct a career.</td>
<td>4</td>
</tr>
<tr>
<td>35</td>
<td>Determined to engage in activities and produce particular outcomes.</td>
<td>3</td>
</tr>
<tr>
<td>30</td>
<td>Has confidence in future.</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 10.

**Factor 2 – “Self-Awareness & Making Meaning...More Than Just Skills” Top Five Most Unlike Statements**

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Structures knowledge using key terms, facts, ideas, organizing concepts.</td>
<td>-3</td>
</tr>
<tr>
<td>5</td>
<td>Is precise and accurate in their work by monitoring/confirming information.</td>
<td>-3</td>
</tr>
<tr>
<td>2</td>
<td>Researches by identifying/collecting information.</td>
<td>-4</td>
</tr>
<tr>
<td>1</td>
<td>Formulates problems using hypothesis/strategy.</td>
<td>-4</td>
</tr>
<tr>
<td>3</td>
<td>Interprets by analyzing/evaluating information.</td>
<td>-4</td>
</tr>
</tbody>
</table>
Table 11.

*Distinguishing Statements for Factor 2 – “Self-Awareness & Making Meaning...More Than Just Skills”*

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Factor 1 Q-grid Position</th>
<th>Factor 2 Q-grid Position</th>
<th>Factor 3 Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Imposes meaning and direction on work.</td>
<td>-2</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>25</td>
<td>Understands one’s abilities, needs, values, interests to socially construct a career.</td>
<td>0</td>
<td>4</td>
<td>-3</td>
</tr>
<tr>
<td>35</td>
<td>Determined to engage in activities and produce particular outcomes.</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>31</td>
<td>Cooperates with others.</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

**Factor 3: “Skills...But Also Drive & Desire”**

Four of the 24 participants represented Factor 3 or what the researcher has referred to in this study as the “Skills...But Also Drive & Desire” group (see Figure 4). Tables 11 and 12 describe the top five most like and most unlike views from this group related to career readiness. Table 13 highlights the distinguishing statements of Factor 3 from all over statements.

Similar to Factor 2, Factor 3 is a bipolar factor showing internal conflicts existing among the “Skills...But Also Drive & Desire” group. Within Factor 3, both positive and negative factor loadings exist as presented in Table 2. Part of the group representing Factor 3 views career readiness as having technical and academic skills to be considered career ready, such as licensure or credentials in a particular profession or on the job training. This is represented by Participant #4’s negative positive factor loading and
response to the post-sort open ended question about what is most like career readiness, “These statements seem to be the most influential on one's success in future career and/or college. #2 (Researches by identifying/collecting information) & #4 (Constructs and organizes ideas to effectively communicate) are also directly related to formulating a deeper understanding of any information.” Participant #17’s positive factor loading and response further influences this viewpoint, “I definitely think students need the technical skills to perform the job but it is equally important to have the desire and drive to want to perform well. Communication is also a necessary skill whether it is oral, written, etc.”

The other part of the group representing Factor 3 or “Skills…but also drive & desire” appears to view career readiness as not only having the technical and academic skills but also as having the drive and desire to obtain such skills. For example, Participant #4 states, “(statements 11, 15, 7) these skills will allow someone to move into, grow, and thrive in the work setting. A positive attitude will allow for workers to keep going even when they are struggling. Being able to understand the hidden curriculum and social rules at work is a vital skill. Lastly being able to self-advocate must be a skill set that career ready people possess.” Further, Participant #1 states, “…I believe a student will need the desire to pursue admission for further education and training. I also believe that having academic skills to succeed and the technical skills to succeed is extremely important in order to succeed after high school.”

Reflecting upon each of the positive and negative factor loadings, the researcher came up with the group name “Skills…But Also Drive & Desire” to capture the different participant viewpoints about career readiness. Similar to Factor 2, the group of
participants representing Factor 3 also has different viewpoints in how they understand career readiness. That is, part of the group understands career readiness as needing the appropriate technical and academic skills to succeed in career while the other part agrees with this idea but also views taking ownership, setting goals, and having the desire to pursue further education and training as being important to career readiness. This reflected in participant choice of statements related to vocational psychology’s social cognitive career theory (Lent et al., 1994) specifically related to outcome expectations and learning experiences while also taking into account K-12 education’s interpretation of career readiness from the perspective of Conley’s (2010) cognitive aspect of college and career readiness. That is, participants view career readiness as believing in consequences from one’s actions while having learning experiences that impact self-efficacy yet also having the skills to construct and organize their ideas effectively to communicate as well as being able to interpret information through analysis and evaluation.
Table 12.

*Factor 3 – “Skills...But Also Drive & Desire” Top Five Most Like Statements*

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Believes in consequences from one’s actions.</td>
<td>4</td>
</tr>
<tr>
<td>32</td>
<td>Has learning experiences that impact self-efficacy and outcomes.</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Constructs and organizes ideas to effectively communicate.</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Is precise and accurate in their work by monitoring/confirming information.</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Interprets by analyzing/evaluating information.</td>
<td>3</td>
</tr>
</tbody>
</table>

*Figure 4. Centroid Factor Analysis and Rotation of Participant Loadings on Factor 3*
Table 13.

**Factor 3 – “Skills...But Also Drive & Desire” Top Five Most Unlike Statements**

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Has a positive attitude toward learning new content: increases challenges and effort. (Conley – Content Knowledge)</td>
<td>-3</td>
</tr>
<tr>
<td>14</td>
<td>Understands norms related to environment in further education or training. (Conley – Transition Knowledge &amp; Skills)</td>
<td>-3</td>
</tr>
<tr>
<td></td>
<td>Has technical skills necessary to succeed, such as licensure or credentials in particular profession or on-the job training. (ACTE – Technical Skills)</td>
<td>-4</td>
</tr>
<tr>
<td>12</td>
<td>Pursues admissions for further education or training. (Conley – Transition Knowledge &amp; Skills)</td>
<td>-4</td>
</tr>
<tr>
<td>13</td>
<td>Understands financial aspects (i.e. tuition, financial aid) to apply for further education or training. (Conley – Transition Knowledge &amp; Skills)</td>
<td>-4</td>
</tr>
</tbody>
</table>

Table 14.

**Distinguishing Statements for Factor 3 – “Skills...But Also Drive & Desire”**

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Factor 1 Q-grid Position</th>
<th>Factor 2 Q-grid Position</th>
<th>Factor 3 Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Believes in consequences from one’s actions (SCCT – Outcome Expectations)</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Researches by identifying/collecting information. (Conley – Cognitive)</td>
<td>-1</td>
<td>-4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Structures knowledge using key terms, facts, ideas, organizing concepts. (Conley – Content Knowledge)</td>
<td>-1</td>
<td>-3</td>
<td>2</td>
</tr>
<tr>
<td>35</td>
<td>Determined to engage in activities and produce particular outcomes (SCCT – Goals)</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>
**Consensus Statements**

Although differences exist among viewpoints among Factor 1, Factor 2, and Factor 3, consensus does exist among the participants with respect to understanding career readiness (Table 14). As described in the table below, participants found agreement in statements 21, 33, and 11. Essentially, participants most agreed that they understood career readiness as having soft skills, self-efficacy, and ability to fit into a post high school environment. These aspects closely aligned with ACT WorkKeys (2013) soft skills, performance, and fit measures. Specifically, aspects related to positive attitudes toward work, high resilience to stress, team orientation, high productivity, unnecessary risk taking, and fitting into post high school environments. In addition, participants agreed that Lent et al. (1994) social cognitive career theory aspect of self-efficacy or the belief in oneself to execute or organize played a large role in K-12 educational leaders’ view of career readiness.

Overall, the consensus statements demonstrate that K-12 educational leaders have an agreement that soft skills such as fit, performance, and talent as well as self-efficacy or belief in oneself to execute or organize plays a role in their understanding of career readiness. These statements provide further dialogue around how K-12 educational leaders understand career readiness.
Table 15.

Consensus Statements for Factors 1, 2, and 3

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>Factor 1 Q-grid Position</th>
<th>Factor 2 Q-grid Position</th>
<th>Factor 3 Q-grid Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Performs in activities as positive general work attitudes reflected by low prevalence of theft, high productivity, supervisor ratings, low absenteeism, high resilience to work-related stress, team oriented, and high employee work satisfaction.</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>33</td>
<td>Believes in oneself and ability to organize/execute.</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Aspires and understands expected societal norms/culture.</td>
<td>0</td>
<td>-1</td>
<td>0</td>
</tr>
</tbody>
</table>

Summary

The participants in this study were chosen to represent a variety of educational leaders within the field of K-12 education. K-12 educational leaders were represented by 24 participants with jobs in K-12 education ranging from superintendent, principal, teacher leader, director of curriculum and instruction, school counselor, special education, to K-12 educational consultant. The Q-sort revealed three factors or understandings about career readiness from the perspective of K-12 educational leaders. Factors were named “It’s All About The Skills”, “Self-Awareness & Making Meaning….More Than Just Skills”, and “Skills…But Also Drive & Desire” by the
researcher to describe the groups of participants having the same subjective understanding about career readiness. These groups were identified by their responses in the Q-sort and answers to the post-sort questionnaire. QM provided the researcher with an opportunity to view the understanding of career readiness from the perspective of these particular K-12 educational leaders, which becomes extremely beneficial in understanding future practice of career readiness in K-12 education. This will be discussed in Chapter 5.
Chapter 5: Discussion of Findings

Overview

As the domestic and global economy continue to evolve in the 21st century, U.S. K-12 schools are charged with graduating students college and career ready so states can remain competitive in the 21st century labor market (Achieve, 2012; CCSSO, 2012; Massachusetts Department of Elementary and Secondary Education, 2012). K-12 students are expected to acquire the knowledge, skills, and abilities necessary to attract potential employers, gain entry into college, and/or gain skilled positions in the military (CCSS, 2012; PARCC, 2013). Today, the skills, knowledge, and abilities required for entry into college are the same for entry into the workplace or military (ACT, 2013). Organizations actively recruit employees who can perform and successfully contribute with the relevant knowledge, skills, and abilities (Latham & Wexley, 1994).

Yet, K-12 education is graduating lots of students without any prior work experience or exposure to meet expectation of the in-demand fields (Ohio Means Jobs, 2015). Masses of students are graduating high school underprepared for college or careers (U.S. Chamber of Commerce Foundation, 2015). In the state of Ohio, approximately forty-six percent of all students and sixty-nine percent of African-American students enroll in postsecondary remedial courses for which they receive no college credit but still have to pay course fees (College Board, 2013; Ohio Board of Regents, 2014; U.S. Chamber of Commerce Foundation, 2015).

Yet, even those who graduate with the necessary skills, knowledge, and abilities struggle to find employment or are considered underemployed given the harsh U.S. and
global economic environment (MDESE, 2012). The unemployment rate for young adults ages 16-24 is at the highest rate than it has been in over a half century (MDESE, 2012). Yet, an abundance of employment opportunities are unfulfilled due to lack of skilled workers to fill the vacancies (MDESE, 2012). So, the urgency to re-evaluate how K-12 education leaders understand career readiness is needed more than ever to help students successfully pilot the 21st century economy (Achieve, 2012; CCSSO, 2012; MDESE, 2012; U.S. DOE, 2013).

Researchers have begun to identify how K-12 students might graduate students as college and career ready (Conley, 2010; PARCC, 2013). Much research has been produced around college readiness where students are educated to complete the necessary coursework to obtain a certificate or degree, placed into college courses, exempt from remedial coursework, and eventually receive higher grades in freshman college courses and obtain a higher grade point average in college (CCSS, 2010; PARCC, 2013). In many instances, career readiness is often exchanged with college readiness (ACT, 2013; Conley, 2010; Council on Career Readiness, 2014).

In K-12 education, understanding career readiness has evolved from discussions around the ACT WorkKeys (2013), Association for Career Technical Education (ACTE, 2013), and David Conley’s Four Keys to College and Career Readiness (CEP, 2013). An analysis in 2013 by the Center on Education Policy confirmed most U.S. states use a combination of these ideas when defining career readiness.

States using ACT WorkKeys (2013) identify career ready students as gaining the foundational (i.e. applied math, reading for information, applied technology, business
writing, etc.) and soft (i.e. fit, performance, talent) skills needed to obtain a National Career Readiness Certificate (ACT, 2013).

ACTE (2013) approached career readiness as preparing students to have academic, employability, and technical skills needed to succeed in the workplace upon graduation from high school. A major focus for ACTE (2013) has been employability skills such as the “ability to communicate, work with others, and being creative” (p.2). Employability skills are seen as important to successful performance in the workplace and ACTE focuses on developing students to have the academic, employability, and technical skills to be career ready upon graduation from high school.

Conley (2010) approached college readiness in conjunction with career readiness in that K-12 students “need to be prepared to enroll and succeed without remediation in a college course so they can attain a bachelor’s degree or industry credential to eventually pursue a career pathway” (p. 5). Four key areas, including cognitive, “content knowledge, learning skills and techniques, and transition knowledge and skills”, are focused upon when preparing students to be college and career ready (Conley, 2010, p. 5). Conley (2010) also highlighted that K-12 schools need to create college and career ready cultures to better prepare students for the 21st century labor market upon graduation.

While much of the conversation in K-12 education has focused on career readiness being interchanged with college readiness, vocational psychologists view career as a separate idea entirely. Career is more than the knowledge, skills, or abilities to successfully perform in a 21st century labor market or pursue a viably economic career
pathway (Conley, 2010; Gysbers, 2013; Super, 1984; Savickas, 2005). The theories of
career construction (Savickas, 2005) and social cognitive career (Lent et al., 2002)
present career as helping students become lifelong learners in order to remain competitive
in the 21st century global economy.

Career construction theory (Savickas, 2005) introduces aspects from the
vocational psychology (Holland, 1997), life span development (Super, 1984), and
individual psychology (Savickas, 2005). Lent et al. (2002) social cognitive career theory
includes elements of self-efficacy and outcome expectations to help provide perspective
around work choice, goal setting and persistence in tough work environments. Both
theories bridge how K-12 educational leaders might understand career readiness using
aspects from both K-12 education and vocational psychology.

Summary of Findings

In this study, Q-Methodology (QM) was used to explore how K-12 educational
leaders understand career readiness. QM was chosen because it provided an opportunity
to explore individual K-12 educational leader subjective viewpoints from a quantitative
and qualitative perspective (Brown, 1997; Stephenson, 1953). 24 K-12 educational
leaders participated in the study and self-identified as K-12 educational leaders from
areas of K-12 educational consulting, school superintendent, principal, teacher leader,
school counselor, or curriculum director. All were either masters or doctoral students in
an educational studies or educational administration course at a Midwest university.

During the summer 2015 semester, participants were administered consent form,
demographic questionnaire (see Appendix 2), and Q-sort with open-ended questions (see
Appendix 1). The demographic questionnaire collected information about gender, age, ethnicity, job description, number of years in K-12 education, highest degree held, and degree major. The Q-sort was used to explore K-12 educational leader understanding about career readiness. Each participant self-reported their understanding of career readiness.

Data was analyzed using PQMethod (Schmolck, 2002) and discovered three factors which held five interpretable viewpoints. First, 15 of the 24 participants represented Factor 1 or what the researcher called “It’s All About The Skills”. This group of K-12 educational leaders understood career readiness as having the necessary technical and learning skills, ownership of learning, effectively being able to communicate, having a positive attitude toward challenges, and being able to learn new techniques. This group shared a less favorable view of career readiness from the viewpoint of career as structured by vocational psychology’s career construction theory and social cognitive career theory.

Factor 2, called “Self-Awareness & Making Meaning…More Than Just Skills”, was represented by only six of the 24 participants. In this case, participants had internal conflict about their understanding of career readiness. Part of the group viewed career readiness as having the technical skills, ability to solve problems, and skills to communicate. The other part of the group viewed career readiness in a similar fashion yet was torn in that career readiness was really about creating meaningful work and becoming lifelong learners. This group more closely aligned with vocational psychology’s perspective of career, especially social cognitive career theory and career
construction theory, in that while they would like to focus on technical skills, they are really not themselves without making work meaningful with respect to career.

The third and final factor, called “Skills…But Also Drive & Desire”, represented four of the 24 participants and had similar internal conflict as the group representing Factor 2. That is, one part of the group representing Factor 3 understood career readiness as having the technical and academic skills while the other part of the group understood career readiness as also having the drive and desires to obtain such skills. The group representing this factor also reflected vocational psychology’s view of career from the aspect of believing in consequences from one’s actions while learning from those experiences and developing a sense of self-efficacy from it. Yet, the group representing this factor also appeared to adopt K-12 education’s view of career as acquiring the necessary technical and academic skills.

**Discussion and Implications for K-12 Education**

This section explores the implications of the study and addresses several questions which surfaced from the literature review and data analysis. Many implications arose from the study that explored how K-12 educational leaders understand career readiness.

K-12 educational leaders presented an understanding about career readiness primarily related to developing the appropriate knowledge, skills and abilities to compete in the 21st century global economy. However, a small number of K-12 educational leaders also identified with aspects of vocational psychology’s perspective of career
including self-awareness, making meaning in one’s life, and having a drive and desire to succeed.

**Is History Repeating Itself?**

In reviewing the literature and data analysis, it became apparent that how K-12 educational leaders understand career readiness is a repeat of how career was understood in past U.S. history. As mentioned in the literature review, the idea of career began in K-12 education with Parsons (1909) and his effort to engage career guidance in education. Parson’s (1909) goal to match skills with employment opportunities for U.S. immigrants is eerily reminiscent to current K-12 educational leader understanding about career readiness. That is, career readiness considered related to developing the appropriate knowledge, skills, and abilities to become successful in either college and/or career. Organizational theory also related to this idea as rational leadership in which rational systems are led by tasks to be completed in order to meet goals and deadlines where individuals are hired to complete such tasks (Scott, 2003).

As time progressed, awareness of personality and individual differences came into focus which could mirror today’s subjective viewpoints of the minority of K-12 educational leaders related to understanding career readiness. No longer could K-12 education and vocational psychology match skill sets with employment opportunities, but had to begin focusing on focus on individual personalities and differences. Organizational theory also evolved to reflect this change in the form of natural leadership where behavior and interconnectedness among individuals became the focus for effective performance (Scott, 2003). This was also apparent by the evolution of career guidance in
the schools with a child-centered approach influenced by psychology (Cremin, 1961) and matches the small contingent of K-12 educational leaders who understand career readiness in consideration of aspects such as self-awareness, making meaning, and developing drive and desire.

An in-depth investigative study of how K-12 education and vocational psychology approached the idea of career would be instrumental in making connections from the past to the present understanding of career readiness in K-12 education.

**College and Career Readiness for the NEET Generation?**

Postponing events in life has become a rational solution for young adults as they face the current uncertainty and risk of today’s uncertain global economy (Savickas, 2013). U.S. adolescents are likely to fall into a new career development category called NEET (not in employment, education, or training) category upon graduation from high school (Yates & Payne, 2006). The phenomenon was first used to classify such individuals between adolescence and young adulthood in the United Kingdom (Yates & Payne, 2006). The idea spread to other countries including Japan, South Korea, and Taiwan. Given the influx of NEETs, vocational psychologists (Savickas, 2013) identified a new career development stage called the quarter life crisis where young adults have left the dependency of childhood and adolescence but have not yet entered into responsibilities normative in adulthood.

In this quarter life crisis, young adults are apt to “explore a variety of life directions in love, work, and worldviews” (Savickas, 2013). In the study, K-12 educational leaders related to this view of career readiness as helping students build self-
awareness, make meaning in their lives, and develop drive and desire. Vocational psychologists (Savickas, 2013) agree those in the NEET stage would benefit from gaining the knowledge, skills, and abilities related to self-efficacy, motivation, and desire so they might eventually become employable citizens; which would help immensely given Harvard University’s Institute of Politics (2015) recent study indicating that many millennials believe the American dream is dead for them.

Some K-12 educational leaders have begun to identify the need for exploring ways to improve teaching and learning by increasing student social and emotional learning into school accountability (CORE Districts, 2015). A group of local school districts in California came together to help improve student college and career readiness by specifically developing a school quality improvement index that focused on measuring student academic, social, emotional, and school culture climate (CORE Districts, 2015). At the heart of this focus was student social and emotional learning where K-12 educators were charged with identifying student knowledge, skills, and abilities to manage their emotions, achieve goals, show empathy, build relationships, and make responsible decisions (CORE Districts, 2015). Surprisingly, some of the K-12 educational leaders that participated in this study understood career readiness in the same capacity. Similar aspects, such as drive, desire, motivation, and self-awareness, were also understood by K-12 educational leaders in this study as career ready.

Moving forward with respect to future research, perhaps it might be beneficial for K-12 educational leaders to follow a similar process to re-evaluate the social and emotional competencies so students are fully prepared for successful careers regardless of
what they pursue immediately following high school graduation (CORE Districts, 2015). K-12 educational leaders can work with postsecondary institutions to ensure validity and reliability of the instruments developed (CORE Districts, 2015).

Creating a Culture of Hope

A recent Gallup Student Poll (2014) found only fifty-three percent of students in grades 5-12 felt hopeful, fifty-three percent engaged in school, and sixty-four percent felt a sense of overall wellbeing. K-12 educational leaders understand career readiness as building a sense of self-awareness, motivation, and desire, yet only half of K-12 students feel a sense of hope, engaged at school, or have an overall sense of well-being. A large disconnection exists between how K-12 educational leaders understand career readiness versus how students feel in the classroom (Gallup, 2014).

Harvard University’s Institute of Politics (2014) reports young American view politics and public service in a negative light. In fact, many millennials feel the American dream is dead for them (Harvard University Institute of Politics, 2014). K-12 education needs to quickly re-evaluate the goals set for the U.S. K-12 education system and challenge the idea that college and career readiness alone is enough for students to successfully navigate the 21st century labor market (ACT, 2014; College Board, 2013; MDESE, 2012).

In creating a culture of hope, it is important for K-12 education to understand that millennials and the next iGen are a generation of young people who are “confident, self-expressive, liberal, upbeat, and open to change” (Pew Research Center, 2010, p. 1). K-12 educational leaders coming from mostly a generation X or baby boomer generation may
find this a challenging group to prepare for college and career readiness. Human resources departments in businesses have already began to tackle this question as the first wave of millennials, born between 1980 and 2001, challenged employers greatly (Alsop, 2008). In response, employers attempted to assimilate the most challenging and coddled generations in history into the workplace designed by determined baby-boomers (Alsop, 2008). This same challenge can be said to exist in K-12 education’s preparation of students to become college and career ready upon graduation from high school.

Only a small group of K-12 educational leaders, primarily from generation X or baby boomers, believe students should be prepared to develop a sense of self-awareness, drive, desire, and motivation. The focus has been primarily on developing the academic and technical knowledge, skills, and abilities to succeed in either a college and/or career; nothing to be said about developing social and emotional learning. Perhaps the missing component is realizing the millennial and iGen generations won’t thrive on learning traditional academic and technical skills until they are provided with the freedom and flexibility to be creative with their education to find a sense of purpose in their lives. If the mantra “it’s all about me” (Alsop, 2008) fits the millennial and iGen generations, then perhaps K-12 education and even human resource departments would benefit by preparing students for career readiness by recognizing the need to develop student self-awareness, drive, desire, motivation, freedom, and flexibility to pursue whatever college and career pathway they feel fits them best regardless if it’s considered economically viable by today’s account. As many organizations have noted, K-12 education is preparing today’s students for jobs that do not even exist yet (ACT, 2014; Zhao, 2008).
Throwing out the book on traditional K-12 education and beginning to
individualize and personalize learning for each and every student appears to be the first
step in helping to bridge this gap. Perhaps the hook to catch this continuously moving
generation is the realization that technical and academic knowledge, skills, and abilities
are indeed needed to succeed in the 21st century labor market but can be completed with
a sense of hope and individual purpose.

**Conclusion**

The path to understanding career readiness has never been more difficult in
today’s 21st century world. Career is now an individual’s story because it carries a
person through their life (Savickas & Porfeli, 2009). In order to help K-12 educational
leaders better understand career readiness, vocational psychologists need to step in and
teach them how to help students become reflective upon their lives. K-12 educational
leaders understand career readiness at the depths of an individual, yet are measured and
held accountable by technical and academic skills, knowledge, and abilities that their
students’ acquire. In a world of individualization where NEETs self-construct their own
lives, K-12 educational leaders can help students by creating more experiences to make
meaning in their lives. This could be in the form of work experiences, student groups,
volunteering, apprenticeships, etc.

Vocational psychologists (Savickas, 2013) find that interest inventories such as
Holland’s Self-Directed Search (Holland, 1997) or Strong Interest Inventory (Hansen &
Campbell, 1985) help tell our students about where they are in a group. But, they do not
tell a student about him or herself and their unique differences (Savickas, 2013). K-12
educational leaders can provide structure and guidance to help students find out their individual differences and what makes them unique in this world. A student as him or herself is the only unique individual who will ever be (Savickas, 2013).

Yet, K-12 education always appears to be in a rush to train students on the technical and academic skills when really the training needs to be also around helping students understand who they are as individuals and the stories they have to tell to the world. It is these stories that help students find drive, desire, motivation, and self-awareness in their lives which indirectly impact career readiness. K-12 educational leaders understand career readiness in this sense but display an internal conflict with the need to train students with technical and academic skills. If a student only has the technical and academic skill set needed to do the job then where is the drive, desire, and motivation to take that opportunity to the next level of new innovation and creativity? Both are equally as important.

K-12 educational leaders have an opportunity to lead the charge in re-creating school cultures to develop students who are employable and strategically position their student’s unique life stories to help them find purpose and meaning in their lives (Savickas, 2013). Students of the millennial and iGen generations are desperately asking for such hope, engagement, and well-being (Gallup, 2014). And while vocational psychology evolves its focus on the individual and helping people know how to change (adaptability) and knowing their story (identity) (Savickas, 2013), K-12 educational leaders could benefit by following so they can help their students know how to adapt to their world and encourage their story which they can bring to it.
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Appendix 1: Q-sort

Condition of Instruction: In a survey of literature, there are 35 words and phrases attributed to career readiness – such as construct and organize ideas to effectively communicate or has confidence of the future. Rank-order these phrases to represent your image of career readiness – from most like career readiness (+4) as you understand it to most unlike career readiness (-4).

<table>
<thead>
<tr>
<th>Most Unlike</th>
<th>Most Like</th>
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<tbody>
<tr>
<td>-4</td>
<td>+4</td>
</tr>
<tr>
<td>-3</td>
<td>+3</td>
</tr>
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<td>-2</td>
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<td>+1</td>
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<td>+2</td>
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<td>+3</td>
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<td>+4</td>
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</tbody>
</table>

01 Formulates problems using hypothesis/strategy

02 Researches by identifying/collection information

03 Interprets by analyzing/evaluating information

04 Constructs and organizes ideas to effectively communicate

05 Is precise and accurate in their work by monitoring/confirming information

06 Structures knowledge using key terms, facts, ideas, organizing concepts

07 Has a positive attitude toward learning new content

08 Has technical knowledge and skills

09 Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress

10 Has learning techniques such as time management, test taking skills, note taking skills, memorization/recall, strategic reading, and collaborative learning

11 Aspires and understands expected societal norms/culture

12 Pursues admissions for further education or training
13 Understands financial aspects (i.e. tuition, financial aid) for further education or training

14 Understands norms related to environment in further education or training

15 Advocates for oneself within an institutional context

16 Has academic skills necessary to succeed beyond high school

17 Has employable skills such as critical thinking, problem-solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and/or ethics

18 Has technical skills necessary to succeed, such as licensure or credentials in particular profession or on-the job training

19 Has specific foundational skills, such as applied math, business writing, workplace observations

20 Fits in well with post high school environment, such as autonomy, ability to influence others, able to put things into order, thinks about difficult concepts/tried to solve them, very precise in one’s work, thinks creatively

21 Performs in activities with a positive general work attitude reflected by low prevalence of theft, high productivity, low absenteeism, high resilience to work-related stress, team oriented, and high work satisfaction

22 Avoids work related accidents and unnecessary risk taking in a work environment as reflected by low work related accidents, working under the influence of drugs/alcohol, outbursts of physical/verbal aggression, coworker complaints about conduct

23 Exhibit talent in work discipline, teamwork, managerial potential, and customer service orientation

24 Imposes meaning and direction on work

25 Understands one’s abilities, needs, values, interests to socially construct a career

26 Develops a career reputation

27 Concerned about future
28 Curious about future
29 Feels in control of future
30 Has confidence in future
31 Cooperates with others
32 Has learning experiences that impact self-efficacy and outcomes
33 Believes in oneself and ability to organize/execute
34 Believes in consequences from one’s actions
35 Determined to engage in activities and produce particular outcomes

Questions

1. Please elaborate on why you choose the 3 statements for +4 most like?

2. Please elaborate on why you choose the 3 statements for -4 most unlike?
Appendix 2: Demographic Information

Name: ____________________________________________________

Contact Information:

Email: ____________________________________________________

Phone Number: _____________________________________________

Gender:
___ Female
___ Male

Age:
___ years

Ethnicity (check one):
___ Caucasian
___ Native American
___ African American
___ Asian American
___ Hispanic
___ Other

Job Description (check one):
___ Educational Consultant
___ Superintendent
___ Principal
___ Teacher Leader
___ Other

Number of years in K-12 education, include this year: ______

Highest degree held (check one):
___ Doctorate
___ Education Specialist
___ Masters
___ Bachelors
___ Other

Degree Major: ____________________
Appendix 3: Q-set

1. Formulates problems using hypothesis/strategy.
2. Researches by identifying/collection information.
3. Interprets by analyzing/evaluating information.
4. Constructs and organizes ideas to effectively communicate.
5. Is precise and accurate in their work by monitoring/confirming information.
6. Structures knowledge using key terms, facts, ideas, organizing concepts.
7. Has a positive attitude toward learning new content: increases challenges and effort.
8. Has technical knowledge and skills.
9. Takes ownership of learning by setting goals, showing persistence, showing self-awareness, having motivation, seeks help when needed, and/or monitors progress.
10. Has learning techniques such as time management, test taking skills, note taking skills, memorization/recall, strategic reading, and collaborative learning.
11. Aspires and understands expected societal norms/culture.
12. Pursues admissions for further education or training.
13. Understands financial aspects (i.e. tuition, financial aid) to apply for further education or training.
14. Understands norms related to environment in further education or training.
15. Advocates for oneself within an institutional context.
16. Has academic skills necessary to succeed beyond high school.
17. Has employable skills such as critical thinking, problem-solving, oral/written communication, collaboration/teamwork, creativity, responsibility, professionalism, and ethics.

18. Has technical skills necessary to succeed, such as licensure or credentials in particular profession or on-the job training.

19. Has specific foundational skills, such as applied math, business writing, workplace observations.

20. Fits well into post high school environment, such as public contact, autonomy, ability to influence others, put things into order, thinks about difficult concepts/tried to solve them, very precise in one’s work, thinks creatively.

21. Performs in activities as positive general work attitudes reflected by low prevalence of theft, high productivity, supervisor ratings, low absenteeism, high resilience to work-related stress, team oriented, and high employee work satisfaction.

22. Avoids work related accidents and unnecessary risk taking in a work environment reflected by low work related accidents, working under the influence of drugs/alcohol, outbursts of physical/verbal aggression, coworker complaints about conduct.

23. Exhibits talent in work discipline, teamwork, managerial potential, and customer service orientation.

24. Imposes meaning and direction on work.

25. Understands one’s abilities, needs, values, interests to socially construct a career.
26. Develops a career reputation.

27. Concerned about future.

28. Curious about future.

29. Feels in control of future.

30. Has confidence in future.

31. Cooperates with others.

32. Has learning experiences that impact self-efficacy and outcomes.

33. Believes in oneself and ability to organize/execute.

34. Believes in consequences from one’s actions.

35. Determined to engage in activities and produce particular outcomes.
Appendix 4: IRB Approval

A determination has been made that the following research study meets the criteria for exemption under the following category(ies):

200

Project Title: How Do Educational Leaders Understand Career Readiness: A Q-Methodological Study

Primary Investigator: Sarah Lopierski

Co-Investigator(s): Krisanna Machtimes

Advisor: Dwan Robinson

Department: College of Education, Educational Administration

Office of Research Compliance Staff
Rebecca Cale, AAB, CIP
Robin Stack, CIP
Shelly Her, BIS

Date: 5/19/15

The approval remains in effect provided the study is conducted exactly as described in your approved application. Any additions or modifications to the project must be reviewed and approved by the IRB (as an amendment) prior to implementation.

IRB approval does not supersede other regulatory requirements, such as HIPAA, FERPA, PPRA, etc.

Adverse events/unanticipated problems must be reported to the IRB promptly.