Exploring Factors That Influence GED Students To Complete And Matriculate To Career And Technical Education Certificate Programs In Community Colleges

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EXPLORING FACTORS THAT INFLUENCE GED STUDENTS TO COMPLETE AND MATRICULATE TO CAREER AND TECHNICAL EDUCATION CERTIFICATE PROGRAMS IN COMMUNITY COLLEGES

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE DOCTOR OF EDUCATION IN COMMUNITY COLLEGE LEADERSHIP

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CHILDERSBURG, ALABAMA
APRIL 2015
Community College Leadership Doctoral Program

Dissertation Notification Completion

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Title of Dissertation: EXPLORING FACTORS THAT INFLUENCE GED STUDENTS TO COMPLETE AND MATRICULATE TO CAREER AND TECHNICAL EDUCATION CERTIFICATE PROGRAMS IN COMMUNITY COLLEGES

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We certify this dissertation, submitted by the above named candidate, is fully adequate in scope and quality to satisfactorily meet the dissertation requirement for attaining the Doctor of Education degree in Community College Leadership Doctoral Program.

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Dedication

To honor my deceased father, Erhman Hays, the man whose only wish was for his children to continue their education beyond high school, I dedicate this dissertation to you. I’m DONE, daddy! I know you’re looking down and smiling.

My dad became the man of the house at an early age, having to work to help support a single mom. He never finished grammar school but he always had a book, magazine, or something to read. While serving in the Army during World War II, he had an opportunity to enter a culinary program, but for whatever reason he chose not to, a decision he often regretted later in life. The one thing I did that hurt him the most was discontinuing my college studies to get married. He felt I would never go back. I promised him on the day he died, that I would finish school, and I was determined to keep that promise. So while I have earned my bachelors’ and Master’s degree, I felt I had to go the whole nine yards to honor not only my dad but my mom, Roxie Hays. She was my stanch supporter through all of my life, someone who would always tell me to keep going, everything was going to be ok. So I dedicate this degree to my heavenly family members; daddy, mom, sister JoAnn, and brother Erhman ‘Mick’ Jr. and my wonderful, beautiful, daughter Valerie. Celebrate in heaven, as I celebrate here.

To my wonderful, understanding, patient, loving husband, Johnny Rayborn Jr., you have supported me on this journey from the very beginning. Thank you in no way express the gratitude, and appreciation I have for you allowing me to accomplish this goal. Through all of the challenges we have faced on this journey; death family members, packing and moving across the country, and settling in a new home away, and being away from family and friends, you have been there for me. Thank you for being my rock, my best friend, my clown when I needed a laugh, my shoulder when I needed to cry, and for giving me my space, when I needed to be alone. I love you.

To our children, Velesha, Tanya, Jonathan, Chantel, LaShamby, Angela, Johnny III, I hope I have been an example for you. Follow your dreams, don’t let them die. To my grand munchkins and great-grand munchkins, like my dad, my one wish and desire is for you to continue your education. I have cleared the pathway for you. Your parents are following, and I hope you continue in our
Your education is the most important thing you can ever obtain. No one can take it away from you. It will take you farther than you can ever imagine.
Acknowledgement

The decision to complete my education with a doctoral degree came after much prayer and guidance from above. Sometimes the answer to question will come from your Pastor’s teaching, if your ‘spiritual ears’ are open. So I would like to acknowledge my previous pastor, Dr. William S. Winston, for being a true man of God, who has taught me more about faith and believing than I would ever have imagine. From a Sunday teaching, he stopped the message and said “right now God is dealing with some of you to go back to school. You know what you need to do.” I felt like the only person in the congregation at that moment. But it was confirmation from the highest source.

To my editor, Carrie, a young lady I have known since she was 2 years old and watched growing up. Never in my wildest dreams did I ever think one day you would be the person I come to depend on to keep me grammatically correct. You have grown into such a beautiful woman, and I am truly indebted to you for all the work and assistance you have given me in this quest.

To my transcribers and two best buddies, Kim and Elyria, you are awesome. There is no way I could have completed this project without your help and your typing skills. I so appreciate your assistance in helping me reach this accomplishment. You’re simply the best.

To my colleagues “the South Side Girls”, Brenda and Kris, we started this journey together in 2011. You both have been there for me when I did not know which way was up. You have provided support in ways you will never know, and I will always remember and appreciate our time together in room L227. May our friendship continue, ONWARD!

To my life friend, Marva Lykes; we have travel life together since high school. There hasn’t been a time when we didn’t have each other’s back. I truly appreciate all that life has brought us through, and I thank you for being there when I needed you. Words can never express what I feel in my heart for you. You have been my sistah, my bff, my confidante, and the one person I could always go to whenever I needed encouragement. I thank God for you, and I so love you.

To my Dissertation Chair, Dr. Dennis K. Haynes; I feel as if I have gained another friend. You have been a source support, and challenge throughout this whole journey. There were conversation I truly did not want to have because of what would be expected afterward, but it was only for the betterment of the research. We have shared some of life challenges in-between our conversations,
and it has been an honor and a privilege to have you as my Chair. For your guidance, support, and friendship I will always be eternally grateful.

To other family members, friends, colleagues, and well-wishers, far too many to name individually, I want to send out a big shout of THANK YOU! Your support, words of encouragement, prayers, love, and assistance, large and small, is greatly appreciated and will always be remembered.
Abstract

In the current labor market, individuals without a high school diploma or equivalent credentials are more likely to be un-employed, unemployable, or in a low-wage earning position, working two or more part-time jobs to make ends meet. Their outlook on life, and their future, is often bleak. Yet, by obtaining their GED credential, and enrolling in short-term career and technical certificate programs offered at many local community colleges, they are able to gain the skills, experience and confidence needed to open doors to new employment opportunities and a brighter future.

The purpose of this study is to explore the factors that influence students with GED credentials to complete and matriculate to career and technical education certificate programs in community colleges. This qualitative case study examined the intrinsic and extrinsic factors of influences from the perspective of GED students in career and technical education programs in three Midwestern state community colleges. Additionally, the research looked into the education programs attributes that supported their program success, as recognized by the college’s program administrators and faculty members at each college.

Through a multi-method approach data was collected from ten students, four program administrators, and four faculty members. Through the application of cross-case analysis, the data was examined both within and across each college. The findings were filtered through the conceptual framework of Lent, Hackett, and Brown’s Social Cognitive Career Theory (SCCT), Tinto’s Theory on Retention, and Astin’s Theory of Involvement.

The findings indicate that students with GED credentials, returning to certificate programs at community colleges are usually older adults who have faced challenges in finding and/or maintaining gainful employment. They are looking for career and technical educations (CTE) programs that are relatively short-term, offer classes that incorporate contextualized content with skill training, and provide an opportunity for on-the-job or apprenticeship training. Additionally, these students needed a program that provides not only the usually academic support, but can also provide the extra support so many older, first-time college students need to navigate through the institutions practices and policies.

The findings also indicate that successful CTE programs involves stakeholders in all areas of education, government, and businesses with an interest in education, labor, and training. Through a
collaborative effort, agreeing on effective methods and shared responsibilities, these programs use a systemic approach at the state, regional, and local level to align workforce, education and social services into a strategy that benefits everyone involved.
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Chapter 1: Introduction

“Now is the time to build a firmer, stronger foundation for growth that will not only withstand future economic storms, but one that helps us thrive and compete in a global economy. It’s time to reform our community colleges so that they provide Americans of all ages a chance to learn the skills and knowledge necessary to compete for the jobs of the future.” President Barack Obama.

According to the 2010 GED Testing Statistical report, the 2000 United States Census Bureau, states 39 million adults (18 percent), aged 16 and older in the United States, lack a high school diploma, and are not enrolled in any educational program. Every year millions of students leave high school without receiving a diploma. Research has shown that obtaining a high school education, and pursuing some form of postsecondary education, is very necessary for individuals to advance socially and economically. One option for high school dropouts is the completion of the General Education Development credential (GED). While obtaining a GED certificate is no guarantee to improving economic and employment conditions, it does provide an avenue for individuals to move into some form of postsecondary educational program. Labor and economic trends show that more and more jobs are requiring some form of postsecondary credentials, especially those that pay a wage above the poverty line. Individuals with GED credentials can represent an untapped source of potential employees for current and future employment. Therefore the need for services and programs that prepare low-skilled individuals to succeed in the workforce has become an urgent priority of businesses and higher learning institutions.

According to the United Stated Department of Education, 24 percent of the top thirty fastest growing jobs require postsecondary education or training, yet 60 percent of Americans have no postsecondary credentials at all, and less than one-third have bachelor’s degrees. With a decline in the number of high school graduated projected to continue until 2015, employers will no longer be able to meet their future workforce needs with individuals who graduate from traditional higher education institutions. Business will need to find individuals who, regardless of the formal education background, can be trained to meet the requirements of the job. As indicated in the excerpt from President Obama’s speech in Michigan, June 2009, community colleges are best equipped to train individuals for jobs of the future. Community colleges, across the country, are working to implement career technical
training and certification programs that provide industry certified training to individuals who lack postsecondary education and workplace skills, in less time needed to complete an associate degree.

**Background and Context of the Purpose, Problem, Issue or Concern**

**GED Beginnings**

The General Education Development (GED) credential was developed and designed as a high school equivalency test for non-graduates. It originated after World War II to allow veterans to complete their high school education and attend college. Eventually civilians were allowed to take the test as well, thereby providing a second opportunity for high school drop-outs to complete their formal education. The test covers five areas of study: writing skills, interpreting literature and reading, math science and social studies, and the test is administered in each state by the General Educational Development Testing Service, a program under the American Council on Education. All community colleges and most four-year institutions accept GED credentials for admission, as do most businesses that require high school graduation as a condition for employment. Having successfully completed the GED exam opens doors for students to pursue career pathways that can potentially lead to more sustainable employment opportunities.

Many of the country's community colleges have become key providers of career and technical certification programs, as well as and bridge programs and other training initiatives. These institutions play an important role in understanding the training needs of community businesses, industries and organizations, and in providing the training needed to help them meet their goals. They also play a vital role in reskilling America’s workforce by assisting working adults develop and enhance their technical skills for high-demand occupations. According to Levin (2000), “community college mission for the twenty-first century will be more on training, economic needs of business and industry, and workforce preparation and retraining, and less on education, community social needs and individual development” (pgs. 3-4).

**GED challenges and obstacles**

The need for GED credentials has become even more critical, as effective July 1, 2012 student without a diploma or GED are no longer be eligible for federal student aid. This had allowed such students from low-income families to receive federal aid for college by demonstrating their ability
to benefit from higher education. This was done by taking a basic skills test or successful completion of six credits of college work. According to an article in the Chronicle of Higher Education, community colleges benefited the most for students receiving aid under the ability-to-benefit eligibility, enrolling approximately 60 percent of all such students. Most community college students who took advantage of the ability-to-pay provision opted for technical or career-oriented programs (June 25, 2012, pg.2). Ending this benefit forced students to earn a GED before enrolling in a community college career technical program.

Economic, cultural, social, and other factors present obstacles that keep individuals from completing high school, let alone attempt to attend college. In the Department of Labor 2007 study on Adult Learners in Higher Education several obstacles that adult learners faced in trying to obtain higher education credentials were identified: (a) the vast majority of adults must juggle many responsibilities in addition to school; (b) adults have lower postsecondary persistence and completion rates than traditional students, (c) and adult learners have unique needs requiring an education system and policies that support their population and promotes their success (pg.2). The study also identified obstacles that adult learners’ faces when dealing with institutions, and institutional procedures and policies, which were; (a) the nature of their access and success in higher education, (b) the way in which traditional education is delivered, (c) obstacles associated with financial aid, (d) institutional funding policies, and (e) an accountability system that does not maintain accurate statistics on adult outcomes (pg.1). These are obstacles that must be addressed to increase GED enrollment and matriculation in career technical programs.

GED Statistics

According to the 2010 GED Testing Program Statistical Report, in 2010, 757,000 adults worldwide took at least one of the five GED content area test. Approximately 655,000 (86.8 per cent) completed and 474,000 of the completers met the passing standard (72.4 percent). This signals the level of determination of most candidates to meet the goal of gaining a high school credential. Educational reasons were the motive most often cited as the reason for testing by the candidates (63.5 percent), along with personal satisfaction (52.6 percent), and employment to get a better job (50.8 per
Sixty-three per cent of GED candidates indicated a plan to further their study citing employment reasons (to get a better job) for the decision (pgs. 2 – 4).

**Purpose of the Study**

The purpose of this study is to contribute to the understanding and identification of factors that influence GED students to continue their postsecondary education in career and technical certificate (CTE) programs in community colleges. This study will attempt to identify intrinsic and extrinsic factors, in addition to program attributes that lead GED students to persist with completing the program to matriculation. Additionally, this study will also identify barriers and obstacles that GED students overcome to complete the program.

**Guiding Questions**

The following driving questions emerge from the purpose:

1. What are the intrinsic factors that influence GED student’s decision to complete career certificate programs in community colleges?
2. What are the extrinsic factors that influence GED student’s decision to complete career certificate programs in community colleges?
3. What are the program attributes that motivate GED students to complete this program?
4. What do GED students perceive as barriers to completion of the program?

**Significance of the Study**

The United States Department of Labor predicts a shortage of skilled workers in several business industries and occupations in the near future, specifically manufacturing and healthcare. Employment for these types of jobs do not require individuals to have a college degree, but they do require specialized skills, and training, that can be obtained from a career and technical training, or certificate program offered at a community college, once the individual has obtaining a GED certificate.

What influences individuals, who have obtained the GED credentials, to continue their postsecondary education? For those individuals who matriculate to a career and technical certificate program what factors can they identify that helped or motivated them complete the program? There is
relatively little literature, research, or data existing on the subject of GED students continuing their postsecondary education, and even less on GED students continuing to CTE programs. This study will venture to provide information that helps to fill the gap by obtaining first-hand data from GED students who are currently in CTE programs, and those who have successfully completed a program from a community college. Data will also be obtained from CTE program administrators and faculty members. This study will focus the factors influencing GED student’s decision on specific CTE programs, and on their persistence and involvement in the program; identify factors which facilitated and or hindered their progress, and discuss their expectations from successfully completing the program. It will also examine external factors of the training program itself from administrators, and staff members familiar with the programs, institution’s policies and practices. Insights from this study will provide data for future career and technical certificate initiatives, and programs designed to attract individuals with GED credentials.

**Brief Review of the Literature**

**History of Community College**

Over sixty-five years ago, President Harry Truman called for a national network of community colleges to expand the educational opportunity for veterans returning from World War II. Through the 1947 President’s Commission on Higher Education a network of public community colleges was established that charge little or no tuition, provided comprehensive program offerings, and would serve the area in which they were located. Just prior to this legislation, in 1944, Congress passed the Servicemen’s Readjustment Act, also known as the GI Bill of Rights. This act provided financial assistance for veterans of World War II who wished to pursue higher education, and did much to break down the economic and social barriers for Americans wanting to attend college. Today, President Barack Obama has called for an additional 5 million community college degrees, and certificates by 2020 (June 2009, Warrenville, MI). Through The American Graduation Initiative the administration is providing funding for several programs to assist students in obtaining a postsecondary education, including initiatives that will help unemployed workers get new skills, expanding the Perkins Loan program, and helping families save for college.
Community colleges have become a vital part of the postsecondary education system. According to the American Association of Community Colleges, they serve almost half of the undergraduate students in the United States, providing open access to postsecondary education, preparing students to transfer to four-year institutions, providing workforce development opportunities, skills retraining, and non-credit programs.

Without community colleges, millions of students and adult learners would not be able to access the education needed to prepare for employment. Additionally, community colleges are often the educational access point for many rural communities, providing educational opportunities to many non-traditional adult students who work while attending school. Through workforce development programs and other initiatives, community colleges are able to work with local businesses, industries, and government agencies to create customized training programs to meet the area’s employment needs (American Association of Community Colleges, 2012, aboutcc, trends, para. 4).

Community colleges were also established to respond to the need of local businesses for trained workers as the nation’s industries expanded. Many community colleges began as industrial training centers (Cohen & Brawer, 2003). Throughout the years, public policy has served to strengthen the connection between business training, and community colleges (Grubb, Badway, Bell, Bragg, & Russman 1997). Community colleges have been the provider of education and training for those seeking to acquire new job skills, or upgrade existing ones. Several legislative acts have been enacted to support this effort.

The Workforce Investment Act (WIA) of 1998 required states and localities to develop employment training programs into a comprehensive workforce investment system. This provided a range of employment assistance services to eligible individuals, established relationships with businesses, and provided financial assistance to students retraining at community colleges. The American Recovery and Reinvestment Act of 2009 provided for increased funding to community colleges for dislocated workers seeking to upgrade job skills (Brumbach, Conner, & Van Nostran, 2009). Additionally the Carl D. Perkins Vocational and Technical Education Act of 2006 added focus on the academic achievement of career and technical education programs, strengthening the connections between secondary and postsecondary education.
The main focus of the Perkins Act is to fully develop academic, and career and technical skills of secondary and postsecondary students who elect to enroll in career and technical education programs (aacc.nche.edu Positions_Pages). Community colleges play a vital role in developing and implementing career and technical education programs that responds to the needs of local businesses, organizations, community stakeholders, and leaders. Through these partnerships and joint initiatives, specialized programs are implemented that provide training to individuals in need of academic, and critical thinking as well as occupational training.

**Career Technical Education Programs in Community Colleges**

Career Technical Education (CTE) programs offer students an opportunity to gain technical knowledge and work-related skills through structured programs, jointly developed by community colleges and local businesses. Students in CTE programs graduate with licenses or postsecondary certificates, industry certification, or diplomas that prepare them for in-demand careers in high-growth industries. These programs align college, and career readiness skills through integrating academic and technical content. Students obtain work-based learning opportunities connected to real-life employment.

Certificates are recognition of completion of a course of study based on a specific field, usually associated with a limited set of occupations. They offer students career awareness, opportunities, and provide the academic knowledge and technical skills necessary for employment. They do not require labor market, industry based certification, such as Microsoft of Cisco certification. Program lengths vary, depending on the program requirements. Although certificates are not always counted in postsecondary attainment, they can be used to continue on towards a higher-level certificate or postsecondary degree. According to a study done by the Georgetown University Center on Education, and the Workforce (CEW), individuals with a certificate, on average, earn 20 percent more than workers with only a high school diploma (pg. 4). Certificate programs are more affordable, relatively quicker to obtain, vary in purpose, and are especially beneficial to those with less formal academic education. According to the study, approximately 5 percent of adults between the ages of 25 and 64 have a postsecondary certificate as their highest level of education.
Most programs incorporate job placement with businesses and organizations looking for skilled employees. Anthony Carnevale, CEW director and lead author of the report, states that postsecondary certificates are putting significantly more Americans on an affordable pathway to gainful employment, becoming the fastest growing form of postsecondary credential awarded in this country over the past few decades (pg. 2).

**Community College Bridge Programs**

Community Colleges also offer programs very similar to career and technical education under the title of bridge programs or career pathway programs. These initiatives guide students from adult education programs or community college remediation courses, into career and technical training classes. Community college bridge programs are designed to prepare individuals with low academic skills required for postsecondary education, with the training needed to succeed in career-path employment in a specific high-demand industry or occupational sector. Individuals in such programs may or may not have a high school diploma or GED. These programs differ from traditional job-training programs in that they provide a broader foundation for career-long learning, and on-the-job-training through formal postsecondary education and training. Bridge programs were developed to move individuals as quickly as possible from noncredit to credit programs, and to provide opportunities for attaining certificates and degrees. They are usually offered through partnerships that involve degree-credit and non-credit divisions within learning institutions. They also assist local businesses, and industries by providing a supply of qualified applicants for occupational/sector specific positions. One such program in Illinois is the **Shifting Gears Bridge Program**.

Launched in 2007 by the Joyce Foundation, Shifting Gears is a multi-year, multi-state initiative to promote regional economic growth by improving the education and skills training of the workforce in several Midwestern states. The initiative assists several Midwestern states implement systemic changes to adult education, workforce development, and postsecondary education programs. Each state has a team of officials representing workforce development, adult education, and community colleges. Through developed strategies, adult basic skills education, basic academic skills, and English language services are blended with postsecondary education and training. Advisory services, college success courses, peer support and other student support strategies are also included. This
innovative program is occurring in both adult basic education (literacy, GED preparation, and English language services), and in developmental education (pre-college reading, writing, math, and English language services) in community colleges.

**Illinois Community College Board (ICCB)**

The Illinois Community College Board (ICCB) was established in 1965 as the statewide coordinating agency for the Illinois Community College system (ICC). Its primary responsibility is to “administer the Public Community College Act in a manner that maximizes the ability of the community colleges to serve their community” (ICCB website, index pg. 1). The ICCB covers the entire state’s forty-eight colleges, and one multi-community college center, in 39 community college districts.

In 2009, the Illinois Community College Board (ICCB) convened the Strategic Planning Task Force to provide recommendations for addressing the needs of adult education learners in the struggling economy. The task force members recognized the success of the Illinois’ Adult Education programs, *Creating Pathways for Adult Learners*, for its unique, specialized, and conceptualized delivery system of training to meet the diverse needs of the adult learners. From their study the ICCB recognizes the need to

“Build partnerships with businesses and workforce investment systems to create career pathways where workers can earn new credentials and promotions step-by-step, worksite education programs to build basic skills and curriculum coordinated with internship and job placement. In addition there is a need to improving remedial and adult education programs, accelerating learners progress, and integrating developmental classes into academic and vocational classes” (pg 30).

**Wisconsin Technical College System (WTCS)**

The Wisconsin Technical College System (WTCS) is comprised of 16 colleges offering over 200 career programs, including two-year associate degrees, one and two year technical diplomas, and short-term technical certificates. The WTCS builds on relationships with various business, industry, and organizations throughout the state. Through these relationships the college develops training programs that integrate the latest technology, and methods into program curriculum, thereby giving graduates the skills and experience needed to enter their career (wtcsystem.edu, board index)
Indiana Technical Community College (Ivy Tech)

In Indiana, the Ivy Technical Community College system offers a variety of short-term training and certification programs in addition to traditional two-year degrees. Their corporate college works with businesses and organizations to deliver training to employees. The college has 27 workforce certification and assessment test centers across the state. Certificates can be completed in a short amount of time, and courses are offered in fields most likely to lead to employment or promotion. A technical certificate is a one year program that provides both conceptual and technical skills in a specific occupation.

Conceptual Framework

This research will identify factors that influence students with GED credentials to enroll, persist, and complete career technical certificate programs offered by community colleges. Exactly what factors keeps these students in a program, and what causes their persistence to continue the program until completion? Numerous studies have identified barriers and obstacles that hinder students, especially low-skilled adults, from successfully completing their postsecondary education. But there are students who have overcome the obstacles, and barriers, and persevered to complete and matriculate a postsecondary certificate programs and degrees.

The conceptual framework for this study will focus on factors attributing to GED students transitioning into postsecondary educational endeavors. This research will look through the lenses of the Social Cognitive Career Theory (SCCT) of Lent, Hackett and Brown’s (1999), Astin’s Theory of Involvement (1985), and Tinto’s Theory on Retention (1975). The Social Cognitive Career Theory (SCCT) builds on Bandura (1997) theory that “positive academic efficacy beliefs elevate educational expectations that lead to academic success” (pg.1). The SCCT theory identifies three building blocks of career development: (a) Self-efficacy, belief about one’s ability to succeed, (b) outcome expectations, beliefs about the outcome of performing particular behaviors, and (c) personal goals, the determination to engage in a particular activity or to affect a particular outcome. One’s beliefs about their abilities to succeed, along with past performances and accomplishments and beliefs on expected outcomes, will lead to performance that attains and succeeds in reaching one’s goals. The SCCT
model also contains several elements of Astin’s Theory of Involvement (faculty and student) and Tinto’s Theory on Retention. These similarities are outlined in Table 1 below.

Table 1. Similarities Between Theories: SCCT Theory, Tinto’s Theory on Retention, and Astin’s Theory Involvement

<table>
<thead>
<tr>
<th></th>
<th>Tinto’s Theory on Retention</th>
<th>Astin Theory of Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lent, Hackett and Brown</td>
<td>Self-efficacy beliefs about one’s ability to succeed</td>
<td>Student involvement:</td>
</tr>
<tr>
<td>SSCT Theory</td>
<td>Per-entry attributes; prior schooling and family background</td>
<td>Involvement occurs along a continuum; student display different degrees of involvement in different objects at different times</td>
</tr>
<tr>
<td></td>
<td>Outcome expectations about the outcome of performing particular behaviors</td>
<td>Institutional experiences</td>
</tr>
<tr>
<td></td>
<td>Student goals and commitment aspirations</td>
<td>Integration of academic and social, and departure decision</td>
</tr>
<tr>
<td></td>
<td>Personal goals; engage in a particular activity or effect a particular outcome</td>
<td>Academic and Faculty Involvement: Effectiveness of educational policy and practices</td>
</tr>
<tr>
<td></td>
<td>Intentional and external commitments</td>
<td>Student and Academic Involvement: Learning and development directly proportionate to the quality and quantity of student involvement.</td>
</tr>
</tbody>
</table>

Both Tinto and Astin theories identify academic and social integration as important components to students successfully completing their postsecondary endeavors. The Social Cognitive Career Theory builds on one’s beliefs about their abilities to succeed, along with past performances, accomplishments, and beliefs on expected outcomes. It is also believed that individuals eliminate possible occupations due to faulty self-efficacies or outcome expectations; the greater a barrier to an occupation, the less likely the individual to pursue those careers. These individuals need assistance in identifying barriers, and in developing plans to overcome them. By helping individuals modify faulty self-efficacy, and outcome expectations, they acquire new experiences and see new career opportunities.
Summary

The focus of this study is to gain insight and data from GED students in community college career, technical training programs on the influencing factors, intrinsic and extrinsic, which attributes to GED students completing the program and matriculating. The theories above address many of the issues students face in deciding whether to continue and/or complete their postsecondary endeavor. Uncertainty of their abilities, past experiences, unknown outcomes, and many other factors, consciously and sub-consciously impact their decision. There is very little research associating the Social Cognitive Career Theory to career technical education programs or participants in those programs. The findings from this study will add to the limited research currently available, provide insight in influencing factors, and provide research findings that can be used to enhance current programs and be incorporated into future career certification programs.

Methodology

Introduction

The methodology approach utilized in this study will be a systematic and logical process involving the collection, analysis and interpretation of the data. Included in this section are the following: (a) the research design, (b) overview of a qualitative case study, (c) sampling, site and participant selection criteria, (d) data collection methods, and (e) data analysis methods.

Research Design

This study will be a qualitative case study situated in an interpretive paradigm. According to Merriam (2009), qualitative research is defined as “an umbrella term covering an array of interpretive techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world” (p 13). Qualitative research is dependent on the researcher, whom Merriam defines as one who “study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meaning people bring to them” (p 13). Merriam identified four key characteristics to assist in understanding the nature of qualitative research (p 14): (1) focus on meaning and understanding from the participant’s perspective of the phenomenon, (2) research is the primary instrument of data collection and analysis: (3) it is an inductive process: the researcher gathers data to build concepts, hypothesis or theories,
building toward theory from observation and intuitive understanding gleamed from being in the field, and (4) it is richly descriptive: the use of words and pictures rather than numbers to convey what the researcher learned about the phenomenon.

**Case Study**

The case study approach is research of a bounded-system, often bounded by time and place, with the focus being the case or an issue that is illustrated by the case (Stake, 1995). This form of research provides an in-depth study of the phenomenon based on an array of data collection materials and the researcher. The focus is in developing an in-depth description and analysis of a case by using multiple sources of data collection forms, analysis of the data through descriptions, and themes of the case as well as cross-case themes.

The inductive paradigm seeks to understand the phenomenon through the eyes of the participants. The researcher makes an interpretation of what they find, looking for patterns in what is observed in each incidence. They make a generalization on re-occurring incidences, which can be shaped by their own experiences and background.

This research deals with the interpretation of data from individuals with GED certificates, who have completed or are currently in a career and certificate program. The nature of this research involves the participants providing a self-reflective view of their journey through the program, and sharing the factors that, they feel, provided the most benefit to them successfully completing the training. It will also gather data from the program executives, administrators, and training faculty on factors of the program, institution’s policies and practices and other aspects of the programs that were beneficial to students’ successful completion.

**Sampling**

The criterion for this study is GED students currently in, or a recent graduate of a career technical certificate program in a community college. These individuals will provide insight drawn from their personal experiences, each influenced by a different set of circumstances and lifestyle. For this study, purposeful sampling will be used in which, according to Creswell (2007), “the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study” (p 125). Purposeful sampling provides a snapshot of
the community through which the researcher will discover, understand, and gain insight into the purpose of the inquiring (Patton, 2002). Maximum variation will be used to identify variations in themes and patterns of the data sampling.

**Site Selection**

Community colleges across the country have career and technical education programs or other types of certificate training programs that address the issue of training and/or retraining of America’s unemployed or underemployed. In Illinois, Wisconsin, and Indiana, several successful programs have been recognized by organizations such as CLASP (Center for Law and Social Policy Inc.), the Illinois Community College Board, and the Office of Community College Leadership at the University of Illinois, Champaign/Urbana campus. Each of these organizations have published reports on promising career and training programs, in the Midwest, that map education and job opportunities to various industries and occupational businesses. From these reports a total of three to five community colleges that offer career technical training and/or certification programs, with GED student enrolled, will be selected; a minimum of one community college from Illinois, Wisconsin and Indiana.

**Participant Selection**

Individuals selected for this study will consist of students with GED credentials, currently enrolled in or a recent graduate of, a certificate training program. It will also include the program executive, program directors and program faculty members.

A total of three to five individuals from each institution, with GED credentials, will participate in a focus group session. This setting will provide a socially structured environment among individuals with similar background and learning experiences. This will give participants an opportunity to responses to the interview questions and provide additional input and feedback based on what others have to say (Merriam, 2009).

From each selection site, the executive director or program director, and one to two faculty members will be selected to participant in a semi-structured interview. The use of interviewing is necessary to gather those things which cannot be directly observed, thus allowing us to enter into the other’s perspective (Patton, 2002, pp. 340-341). These individuals will have a minimum of 3 years of experience in their current position, or working in the program, thereby providing knowledge and
experience on the obstacles, institutional management, program growth, and issues associated with student’s persistence, retention, and career choices. All participants will be asked to sign a consent form, which is provided in Appendix A.

Data Collection Methods

Data for this study will be gathered using five data collection methods: surveys, interviews, focus groups, documents, field notes, and personal observations. Surveys will be used to collect baseline demographic and contextual information from all participants. This will allow the researched to capture basic commonalities among the potential participants. The survey is included as Appendix B.

Semi-structured interviews will be used to gather information from the program executive, program director, and faculty members. Open-ended questions will be asked of each participant to get their perspective on the subject. This method allows for open two-way dialog, providing an opportunity for the researcher to ask specific questions, or illicit clarification or an explanation to a response from the participant.

Focus groups will be used to collect individual and group perspectives from the GED student in the programs. As stated by Merriam (2009) “focus groups work best for topics people could talk about to each other in their everyday lives, but don’t” (pg. 94). According to Patton (2002) focus groups participants can get to hear other’s responses and can make additional comments. This also allows the researcher to ask additional questions, or illicit clarification or an explanation to a response from the participant as well as collect notes on the group’s dynamics and synergy.

Documents pertaining to public record on program statistics, development, lessons learned, policy or other possible use will be collected and reviewed. According to Merriam (2009), use of such documents reflects the participants’ perspective, which is the purpose of qualitative research. Such documents will be identified and referenced in the research.

Field notes and personal observations will be used by the researcher to describe the program’s priority among other programs at the institution, interview observations, and participant’s impressions. Included in these notes will be descriptions of the setting, people and activities; direct
quotes from participants, where applicable, and comments and reflective notes on participant intentions, speculations, and personal feelings.

**Data Analysis Procedures**

Data collected from the sources outlined above will be analyzed using a coding system to determine patterns and themes. With the selection of community colleges from different states, cross-case analysis will be employed to examine themes across cases and to identify and differentiate common themes to all cases. Triangulation of data will be employed to increase the credibility of the results. Data will be sorted based on *A priori* themes.

**Summary**

The case study methodology proposed for this research will provide an in-depth analysis of the bound system of GED student who matriculate in career and technical certificate programs offered in community colleges in three Midwestern states. Through semi-structured interviews and focus groups, participants will provide insight into the factors that made their educational journey successful. The resulting data will be systematically coded and analyzed to determine patterns and themes. It is the goal of this study to present concepts and procedures that can be used in the development of future career and certificate programs or used to enhance existing programs.
Chapter 2: Literature Review

Introduction

The purpose of this chapter is to provide a review and discussion on the current literature, journal articles, studies, and statistics relevant to the GED program and to Career and Technical Education programs. It will introduce the current trends, and challenges of both programs in community colleges. Also included in this chapter is an overview of GED and Career and Technical Educations programs in three Midwestern community colleges including the organizational structure, resources and funding for those programs. Lastly, it will present the theoretical frameworks of Lent, Hackett, and Brown’s Social Cognitive Career Theory, Tinto’s Theory on Retention, and Astin’s Theory of Involvement, upon which the conceptual framework will be analyzed.

While much has not been written concerning students with GED credentials completing any post-secondary educational endeavor, renewed interest in this population of individuals has given rise to studies, reports and journal articles documenting their success and failures. Recent initiatives under President Obama’s administration has led to the development of new educational programs and models geared toward providing training and certification to individuals who are unemployed or underemployed, regardless of their educational status. These new programs are providing the training, skills, and knowledge needed for individuals to obtain employment with a decent pay rate. Private and public funding of bridge programs and certificate training, along with the implementation of career pathways curriculum models in career and technical education, are making headlines throughout the country. As the literature will show, renewed emphasis by community colleges is being directed toward enhancing adult education programs. This includes workforce training courses that not only leads to certificates in specific industries, but also provide stackable course credits that individuals can apply toward advanced certificates, industry certification, and future courses leading to a postsecondary degree.

The structure for this chapter is as follows: (a) a brief historical perspective of community colleges, (b) an overview of the GED program, (c) Career and Technical Education (CTE) in community colleges, (d) an overview of three Midwest community college state systems and their GED
and CTE programs, (e) the conceptual/theoretical frameworks on retention, involvement and the social cognitive career theory (f) and lastly, a chapter summary.

**Brief Historical Perspective of Community Colleges**

According to Cohn and Brawer (2008), community colleges are defined as ‘any institution regionally accredited to award the associate in arts or the associate in science as its highest degree’ (p.5). This includes comprehensive two-year colleges, and technical institutes, public and private, but eliminates area vocational schools, adult education centers, and trade schools that are accredited by the National Association of Trade and Technical schools, but not by the regional accrediting associations. Community College Central (communitycollegecentral.org) adds that, ‘Community colleges in America have also been at the center of adult education, helping many people to gain first-time higher qualifications, as well as to help people change careers’ (p.1).

The evolution and expansion of community colleges came from several challenges facing the country at the beginning of the 20th century. As outlined on the Community College Central website (communitycollegecentral.org), community colleges were developed in the late part of Nineteenth century and originally were referred to as junior colleges. They offered 2 year courses to individuals preparing to transfer to a 4 year universities as well as 2 year courses for those wanting to pursue a teaching profession. During the 1920s and 1930s junior colleges changed focus in response to the Great Depression, by providing job-training programs as a way to ease unemployment while also providing for a more skilled and better prepared work force needed to continue the nation’s economic growth.

After World War II, Congress enacted the Servicemen’s Readjustment Act, also known as the GI bill, which provided financial assistance to servicemen wanting to pursue a college education. In the summer of 1946 President Truman convened his Commission on Higher Education panel whose report emphasized the need to provide equality of educational opportunity to all students, regardless of race, religion beliefs, or economic limitations. According to EducationNews.org (educationnews.org/articles/community-colleges-a-brief-history.html) the commission stressed that it was essential to:
“Develop much more extensively than at present such opportunities as are now provided in local communities by the two-year junior college, community institute, community college or institute of arts and science. The name does not matter, though community college seems to describe these schools best; the important thing is that the services they perform be recognized and vastly extended” (p.2)

Community colleges became a network of public institutions during the 1960’s due to the increased demand for higher education created by the growth of the baby boomer generation. Two legislative acts that added to the increased demand were the Higher Education Act of 1965, and the Basic Education Opportunity Grant of 1972 (BEOG). The first provided increased federal aid to higher education, and provided for scholarships, student loans, and established a National Teachers Corps. The second, the BEOG later renamed the Pell Grant, provides aid to those who otherwise couldn’t afford college. During the latter part of the 20th century, the Commission on the Future of Community Colleges recommended community colleges help to develop and build a sense of community by creating partnerships with local businesses and providing facilities availability to local groups. As stated on the American Association of Community Colleges (AACC) website (aacc.nche.edu/AboutCC/history/Pages/pasttopresesnt.aspx),

“Community colleges serve in providing workforce development training, skills retraining and non-credit programs; they have assisted millions of people learn and advance toward personal goals, while providing a forum to address challenges facing whole communities; they are often the access point for education in a town and a real catalyst for economic development” (p.1).

The 1970s saw enrollment increase as young people looked to escape the draft for the Vietnam War. It was also during this time that the name changed from Junior Colleges to Community Colleges. During the 1980s many community colleges broke away from their high school affiliations and built faculties and campuses of their own.

According to the American Association of Community College’s website on community college trends and statistics, community colleges are the fastest growing segment of higher education. Adding more than 2.5 million students over the last five years they enroll more than 46% of all the nations’ college students. Without them, millions of students, and adult learners would have no access to the education needed to prepare them for the workplace or other postsecondary educational institutions. Community colleges are often the access point for education a towns and rural communities, providing the catalyst needed for economic development. As stated in the report, Mapping New Directions: Higher Education for Older Adults, by the American Council on Education (American Council on
Education, 2007), older adults are more likely to attend a community college than students under the age of 25; while 33 percent of students under 25 attend community colleges, almost 50 percent of community college-going adults are aged 50 and older. Non-traditional, low-income, and less academically prepared individuals seek out community colleges as a way to continue their postsecondary education due to their low cost, open access and the flexibility in class scheduling. Additionally the occupational and technical skills training provided are closely tied to local businesses and employers.

**General Educational Development (GED) in Community Colleges**

A high school diploma acknowledges that the holder has attended and successfully completed all the courses required by the applicable school district. For those who have dropped out of high school, the General Educational Development (GED) program, and test, can provide an alternative to a diploma. Passing the GED tests provides the individual with an accepted equivalent to a high school diploma.

According to the GED Testing Services Annual Statistical Report on the GED Test, in 2011, more than 723,000 adults worldwide took at least one of the five GED content area test; approximately 631,000 completed the GED test and nearly 454,000 of the completers (71.9%) had a score equal to or higher than the top 60% of graduating high school seniors. To date, approximately 19 million candidates have passed the GED test. Historically, data pertaining to GED holders and other equivalency credentials were typically categorized with a high school diploma, making it impossible to identify any specific information on the GED population as a whole.

Many community colleges offer GED programs to anyone meeting the eligibility requirements. Without these programs in the local communities there would be more unemployed and under-employed individuals. For many obtaining the GED certificate has proved to be the opportunity needed to move them ahead in obtaining employment options.

**History of GED**

The General Education Development (GED) was developed in 1942, by the American Council on Education, at the request of the US Armed Forces. As stated on the GED organizations website, www.GETGED.org, the purpose for the GED was to provide a way for returning soldiers to prove their
knowledge and educational levels without having to return to high school to complete their studies. This provided a way for those soldiers to enter the regular workforce. While originally developed for military personnel, the GED has also become a high school alternative for many non-military individuals.

It should be understood that passing GED tests is not the equivalent of a regular high school education or diploma. The tests are designed to assess the skills and knowledge usually developed in a regular four-year high school program. Individuals are tested in five areas of study; writing skills, interpreting literature and reading, math, science and social studies. Since its inception there have been three revisions to the test in 1978, 1988 and 2002. The following table, taken from the GED Test Service website (www.gedtestingservice.com/educators/history), outlines the changes associated with each revision.

Table 2. Three versions of the GED test battery

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>(10 hours)</td>
<td>(6 hours revised to 6 ¾ hours)</td>
<td>7 ½ hours</td>
</tr>
</tbody>
</table>

| Correctness and Effectiveness of Expression | The Writing Skills Test | Writing Skills |
| Interpretation of Reading Materials in the Social Studies | The Social Studies Test | Social Studies |
| Interpretation of Reading Materials in the Natural Sciences | The Science Test | Science |
| Interpretation of Literary Materials | The Reading Skills Test | Interpreting Literature and the Arts |


The 2011 exam results saw an increase in the average highest grade completed rise to the grade 11, from previous year grade 10. Additionally, according to GED Testing Services quick facts candidates planning to continue their studies increased, from 58.9 percent to 63.8 percent, while those taking the test for employment reasons also increased from 48.1% in 2006, to 51.2% in 2011. In all, this trend suggests that individuals recognize an education is needed in order to succeed and advance in life.

Just as secondary education has changed over time, it is equally important that the GED test continue to change to keep up with the increasing educational requirements of today’s labor force.
Beginning January 2014 a new assessment was implemented. A major factor for the revamp of the test was to better align the exam with workforce competencies and educational requirements needed for students entering the workforce and post-secondary institutions. The new credentials serve as notice to educational institutions, government, businesses, employers, and others that the recipient has demonstrated skills in reading, writing, thinking, and computing at the high school level, according to the state standards for passing the test. In addition, the assessment will provide a new set of soft and academic skills for students to master, as well as valuable industry-specific skills and competencies.

The new format is based on common core state standards, and the assessment will condense the previous five-subject area subtest into four: reasoning through language arts, math, science and social studies. The Common Core National Standards is one element of the initiative that strives to link education and training services through bridge programs, education, and industry. Other major changes to the test include it being administered totally on computers, the inclusion of typed short answer responses and fill-in-the-blank questions, and a new scoring system that provides feedback on specific knowledge, skills, and competencies. This feedback will provide the test-taker with information pertaining to their career, and college readiness, while also providing employers, and educational institutions with a standard that those who now pass the GED tests are prepared to succeed in a global workforce. Any student who had not completed their GED assessment by the end of 2013 will be required to take the new exam in its entirety, as all partial scores will be removed from the system (www.gedtestingservice.com/2014faq’s).
Table 3. *GED Test Differences 2002 – 2014 versions*

<table>
<thead>
<tr>
<th>2002 - 7 ½ hours</th>
<th>2014 - timed by section</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Differences: Item types: multiple-choice, essay and grid format questions</td>
<td>Item types: hot spot, drag-and-drop, short answers, extended response, fill-in-the-blank, multiple choice, cloze</td>
</tr>
<tr>
<td>Multiple choice items have five answers</td>
<td>Multiple choice items have four answer options</td>
</tr>
<tr>
<td>Assessment is informed by Bloom’s Taxonomy</td>
<td>Assessment is informed by Webb’s Depth of Knowledge model and the Common Core State Standards</td>
</tr>
<tr>
<td>Test is administered using paper and pencil</td>
<td>Test is computer</td>
</tr>
<tr>
<td>There are no short answers on the test.</td>
<td>Short answered initially scored by humans.</td>
</tr>
<tr>
<td>Reading: There is a reading and writing test. Combined, the reading and writing test include 90 multiple-choice questions and one essay. Time to complete 3 hours</td>
<td>There is a reading comprehension component and a writing component to the Reasoning through Language Arts test</td>
</tr>
<tr>
<td>The number of questions on this section will vary. Takes approximately 3 hours to complete</td>
<td></td>
</tr>
<tr>
<td>Writing score based on traits of: focused main points; clear organization</td>
<td>Score based on traits of analysis of arguments and use of evidence</td>
</tr>
<tr>
<td>Time to complete: 45 minutes</td>
<td>Time to Complete: 45 minutes</td>
</tr>
<tr>
<td>Social Studies: 50 multiple-choice questions. 70 minutes to complete</td>
<td>Number of questions will vary; includes an extended response item. 90 minutes to complete</td>
</tr>
<tr>
<td>Science: 50 multiple choice questions in Physical Science and Chemistry, Life Science, and Earth and Space Science. 80 minutes to complete</td>
<td>Number of questions will vary in the content areas of Life Science, Physical Science and Earth and Space Science. 75 minutes to complete.</td>
</tr>
<tr>
<td>Mathematics: 50 multiple-choice questions. Test-takers allowed to use Casio fx-260 calculator. 90 minutes to complete</td>
<td>Number of questions will vary. Test takers provided with a virtual on-screen TI30XS scientific calculator. 75 minutes to complete</td>
</tr>
</tbody>
</table>


**Challenges of students with GED**

In 2011, the Bureau of Labor Statistics reported that 39 million adults over the age of 16, who did not have a diploma, were not enrolled in high school, and did not have an equivalent certification. Most were minorities, living in impoverished communities with little to no provision for advancing their educational opportunities. While the majority of adults who take the GED test state they do so to continue their education, few go on to a postsecondary institution. From the GED Testing Service 2011 Quick Facts: Sixty-three per cent of GED candidates indicated a plan to further their study citing employment reasons (to get a better job) for the decision but only 43 percent actually enroll in college.
Other reasons cited for taking the test were: personal satisfaction and being a role model (52.6 percent), and employment (50.8 per cent) to get a better job.

Researchers have found that few students with GED credentials who enrolled in a postsecondary institution complete the first year of studies. As reported by the GED Testing Services quick facts for 2011 many of these individuals, identified as non-traditional students, come into the environment with challenges, and obstacles to deal with. Often times they do not find the support, resources, and academic assistance needed to keep them encouraged and motivated to continue. The U.S. Department of Education defines a non-traditional student as someone having one or more of the following characteristics: (1) enroll later in life, (2) attend part-time, (3) work full-time (4) are financially independent, (5) have children, (6) are single parents, and (7) do not have a traditional high school diploma. These students come from a variety of backgrounds, family structures, income levels, and parental levels of education. They are generally older in age, with families or small children to support. Most work part-time, trying to juggle the demands of family, job, school, and their own expectations.

For individuals who eventually receive their GED, educational advancement and postsecondary degree completion is difficult. Little is known on how well low-skills adults do once they transition to postsecondary institutions, especially those enrolled in adult education programs. In a study of the 2003 GED recipients, researchers found that while 43 percent enrolled in postsecondary education within six years of obtaining their GED, only 12 percent eventually earned a degree or credential within that period. The following reports identify several barriers and challenges these students face in attempting to continue their postsecondary journey.

GED recipients graduate from vocational programs at the same rate as their counterparts, but are less likely to obtain an associate’s or bachelor’s degree (Boesel, Alsalam and Smith, 1998). The low attrition rates are due to factors associated with family status (mostly single-family status) and delayed enrollment due to employment status. Most are high school drop-outs, single parents, especially women, that have a need to support themselves and their family. In order to return to school they find themselves having to balance family-care, employment and education. A change to
any one of these factors will find the student withdrawing from school, especially when finances or family issues make it impossible to continue.

A study by the Office of Community College Research and Leadership (OCCRL, 2009) identified three types of barriers that need to be addressed for GED students to successfully transition to postsecondary institutions: (1) individual, (2) organizational, and (3) policy. Individual barriers include students lacking the academic foundation (skills and knowledge) to succeed in college level courses. This may also have multiple personal, employment and family challenges that often time interfere with class work and assignments. Organizational barriers include the student's limited access to support services that may provide some assistance to the individual barriers identified. Additionally there is the enrollment in remedial classes, limited accesses to financial and administrative support, and the flexibility, or lack thereof, in arranging a convenient class schedule.

Lastly, policy barriers addressed the misalignment of funding streams, and policy and programs requirements associated with various workforce programs and funding. In the GED Testing Service year two report entitled, Crossing the Bridge: GED and Postsecondary Education Outcome (2011), additional barriers were identified which includes: the perception that individuals with GED credentials perceive college to be difficult or not for everyone, and the feeling they lack the skills needed to succeed in college, or a strong negative life experience will interfere with continuing or completing their studies.

Casheena Stephens, the author of the Online Journal of Workforce Education and Development report entitled The Potential Barriers to Adult GED Transitions (2010), surveyed students with GED credentials, and asked the question, “What are the factors that impact the ability of GED students to transition effectively into college”? From the respondents came the following list of barriers: feeling unprepared (29%), lack of knowledge of financial aid and scholarships (25%), not enough knowledge about application process and procedures (14%), uncertainly of program options (11%), lack of confidence (11%), transportation (11%), and child care (4%). Their feeling of being unprepared was attributed to academic challenges they had to overcome, and the need to solidify their long-term career goals. In most instances these students are required to take remedial classes, which are not immediately relevant to their career goal or career plans.
In a report by Bridgeland, Julio and Morrison for the Gates Foundation entitled “The Silent Epidemic: Perspectives of High School Dropouts” (2006), eighty-one percent of dropouts said ‘more real world learning’ may have kept them in school. Forty-two percent of those who considered dropping out did so because they did not see value in the school work they were being asked to do. Even students not thinking of dropping out want to ‘see work that connects to what they want to do with their lives’ after high school.

Overcoming these barriers can be overwhelming for individuals who have no clear understanding of what is needed to successfully complete college or a degree/certificate program. The economic challenges for many individuals include being the sole support for themselves, their children and/or families. They often work part-time jobs paying minimum or lower wages. In most employment incidences, they have a higher rate of unemployment and a greater potential to become unemployed. Individuals with children cite the need for childcare and the need for reliable transportation as their biggest challenges. For those enrolled in a postsecondary institution, the financial aid package does not cover all expenses including books, child care and other incidentals. Additionally, if they have part-time student status they are limited in the amount of financial aid received through Pell grants.

An Issue Brief published by the Association for Career and Technical Education (ACTE, 2012) echo many of the above mentioned barriers in addition to social and cultural challenges. Many are the first in their family to complete high school, and continue to any form of postsecondary studies. As first-generation college students they have no role model or mentor to provide guidance and support. They are unfamiliar with institutional policies and procedures, may have difficulty communicating with faculty and staff, and often times struggle to navigate around campus. In some instances family support, while encouraging in the beginning, starts to wane as the students’ time is diverted from home issues and income is applied toward school expenses instead of household maintenance. Because of family and possibly employment responsibilities and obligations, these students may not have time or energy to study for class or complete coursework, leading to a feeling of being unprepared and academically challenged.
A 2006 study by Zafft, Kallenbach, and Spohn for the National Center for the Study of Adult Learning and Literacy (NCSALL) summarized the concerns and challenges facing adults nontraditional students with GED and other nontraditional diplomas to include: (1) inadequate academic preparation, particularly math, use of computers and writing, (2) financial constraints due to limited knowledge and/or access to financial aid, hidden cost of college, transportation, and working conditions, (3) demands of managing work-life (family, childcare, school) relationships, (4) difficulty navigating the new and confusing campus environment, culture, processes, and requirements, (5) personal and psychological barriers of self-confidence in their ability to succeed as a college student. These are common concerns and barriers that have been mentioned in other reports and journals and will need to be acknowledged and addressed in order for new educational models, and programs to succeed.

Institutionally, there is a stronger need for community colleges to provide counseling to ensure these students receive the guidance and support needed to successfully complete a specific program or occupational training certificate. The Department of Labor issued a report, “Scaling the Community College Summits: Challenges, Solutions, and Commitment” (2012), states that institutional support is also needed to direct students in selecting a program that fits their personal goals, and take the right sequence of courses, thereby moving them efficiently through the system. There should be detailed career counseling to help set student’s expectations of course content, timeframe to completion, and employment opportunities upon completion. The report also states that postsecondary education institutions transitional programs should include support components that motivate, encourage, and prepare these students with not only academic tools but also exposure to college bureaucracy and life.

While many GED recipients feel apprehensive about transitioning to college, there are those who find new levels of self-confidence, and increased self-esteem from successfully passing the GED exam. Several recipients report this accomplishment as a first-step towards improving their life’s condition and circumstances. In a November 2011 Issue Brief by the National Center for Education Statistics (2011), the two most cited reason for GED recipients obtaining a GED were personal, family or social (71 percent) and to meet requirements for additional study (66 percent). Additional reasons were job related: to train for a new job or career (51 percent) and to improve or keep up to date on a
current job (47 percent). The last reason cited was that an employer required or encouraged it (23 percent).

**GED trends**

In order to address the needs and challenges of adult learners, while decreasing student dropout rate and providing non-traditional students with the skills needed for employment, postsecondary institutions will need to find ways to change, and implement new practices and policies that improve access, and outcomes for adult learners. The Office of Vocational and Adult Education under the Department of Education issued a report, entitled “Postsecondary Education Transition: Summary of the Findings from Two Literature Reviews” (2010), in which several transition interventions were recommended that addressed administrative, academic and institutional/policy barriers.

Administrative changes include academic advising and/or tutoring, financial advising, personal and career counseling, academic and skills career awareness, and a more comprehensive approach to combining services. Academic changes include competency-based curriculum, academic technical and cognitive skills instruction, and learning-by-doing simulations and internships. Institutional/policy changes include flexible scheduling of courses and classes, and more comprehensive support services. These services could also include freshman orientation, student success programs and assistance with transportation and child care.

In addressing the need of academic preparation intervention, the report, “Summary of the Findings from Two Literature Reviews” (2010), suggested the inclusion of an integrated instruction which paired vocational instruction with adult basic education or English literacy instructors, and contextualized curricula which combines academic and vocational context. Several projects and initiatives that have implemented these practices were identified and include the Charles Motts Foundation Breaking Through project, Bridging to Opportunity project supported by the Ford Foundation, and the Nellie Mae Foundation’s study New England Adult Basic-Education-to-College Transition project. In addressing policy challenges the review recommended interventions designed to increase access to postsecondary education for non-traditional students by providing financial aid for low-income students ineligible through the use of performance based funding.
As previously noted, community colleges have been involved with job training programs and workforce development initiatives since the 1960’s. In order to assist the population needing the most help there needs to be a change in the administration of adult education, from the traditional (liberal-arts) approach to one that involves adults getting the credentials needed to enter the workforce. Recent studies, reports, and new articles have recognized programs implemented by states that reached out to adult students needing to complete their GED. Students in these programs were given an opportunity to not only complete their GED studies, but also earn a certificate in a high demand industry by additionally attending a technical or community college. The following are summaries of successful program initiatives in various states throughout the country.

In 2012, the Governor of Kansas implemented a new Career and Technical Education Initiative program that would encourage high school students to enroll in college-level CTE and earn industry-recognized credentials. The program would provide free college tuition in approved technical courses at Kansas technical and community colleges for high school students in addition to giving school districts $1,000 for each high school student who graduates, from that district, with an industry-recognized credential. The program has benefit everyone involved. The students earn industry certificates before leaving school with job skills that are relevant to the current job market in addition to graduating with their high school diploma. The employers gain skilled workers, many of whom received on-the-job training, and experience at their place of business. The colleges increase enrollment and make an investment in a student with the potential to return for a more advanced certificate or an associate’s degree. The local high school also receives state funds for each student who completes the program and earns a certificate (www.kansasregents.org/governors_CTE_initiative).

In the State of Louisiana, nearly 600,000 adults lack a high school diploma and approximately 264,000 (44%) are unemployed (Community College Daily, February, 2012). This led the Louisiana Community and Technical College System (LCTCS) to develop and implement their Work Ready U program. The 2010 program moved adult basic education, including GED courses, from the high schools into community colleges, allowing for additional support and postsecondary education opportunities to be offered. According to Monty Sullivan, Chancellor of Delgado Community College in Louisiana,
“The goal is not just to help people get their GED, but to get them ready for work with an industry recognized credential. If your college has an open-admission policy and someone shows up with no high school diploma and completes development education, why would we not want to help them get a GED? We need to remove the policy barriers to make this as easy as possible.”

Delgado Community College is one of ten community colleges in Louisiana participating in the Jobs for the Future Accelerating Opportunity program, where students co-enroll in technical career programs, basic and foundational skills, and GED courses under the Work Ready U program. Factors to the program’s success include limited enrollment, due to the needs of the students for extra counseling and social services, flexibility of GED class schedule to include evening classes, grouping of students in cohorts for some classes as well as classes that are mixed with other students. Quoting Sullivan,

“Pushing someone to get a GED requires a ton of effort, particularly for adults with families. It’s worth it though because ‘success is contagious’. If a high school dropout goes back to school and earns some credentials, resulting in a better-paying job, his or her peers will take note”.

An August 20, 2013 article in Inside Higher Ed, Nebraska community college reported on a new adult education initiative the Metropolitan community college (MCC) implemented. The adult education program was relocated to a local strip-mall location off campus. The building is located in the community serving most of the students in the ESL, GED, transitional services and occupational training programs and where most of the residents speak a language other than English and lack a high school diploma. The location of the school, and the small personal atmosphere of the center eliminated the ‘intimidation factor’ of the large campus, and drew members of the community inside to ask questions. The bilingual faculty and staff members were able to provide the information, and support needed to individuals inquiring about the purpose of the school, a one-stop shop for adult education. As one 18-year-old students says, he is very grateful for the support he received at MCC Express. “I can honestly say I haven’t had any better instructors in the 12 years I’ve been in school” (pg.1).

In south Texas, the College, Career and Technology Academy has a new program where high school dropouts and non-completers can earn their diplomas, and start college at the same time. The Academy is run by the Pharr-San Juan- Alamo Independent School District and South Texas community college. The academy is housed in a converted Wal-Mart and since 2007, has graduated
more than 1,000 ‘off-the-track’ students, many finishing with college credentials. Through dual-enrollment courses, students catch-up on high school work and also work towards becoming certificated in various technical industries and trades. Included in the program is a required orientation course that covers study skills, handling stress and time management. Students are advised on stackable courses, which start with them earning certification that can eventually be applied toward an associate’s degree and/or a bachelor’s degree. The program is supported by Jobs For the Future (JFF) and has become a demonstration site for schools nationwide (Chronicle of Higher Education, February, 2013).

Another program model available to these individuals are bridge programs, developed to be short-term programs designed to accelerate learning for adult students interested in pursuing postsecondary education. Often termed GED-Plus (Parks, Ernst and Kim, 2007), these programs integrate GED and developmental education with workforce training and professional-technical education (PTE). Key features include (1) the alignment of GED curriculum to include academic and/or student success skills and, (2) concurrent preparation for GED and postsecondary education. In theory it aligns the two existing systems rather than require new educational segments. A model of this program is the Florida GED PLUS College Preparation Program. The program was designed to provide students completing their GED program with the knowledge and skills needed to reduce their need for remedial college classes. The report stated that more than 68 percent of the Florida GED PLU.S candidates planned to continue their educational endeavor by attending Florida’s community college education centers or universities (The National Research for Career and Technical Education, 2007).

These are just a few examples of how states are finding new approaches to addressing the growing concerns of students dropping out of high school before completing their course of studies, adults completing and passing the GED exams, and providing employment opportunities to low-skill individuals that also supports the local businesses and economy. From the various articles and reports, these new programs incorporate several of the recommended components in the above literature to address the challenges and barriers so many students face.
Career and Technical Education (CTE) in Community College

Community colleges serve as an entry point to higher education for millions of minority, low-income, first-generation and adult students. This includes students with GED credentials, who are more likely to enroll in a community college or vocational/technical institution to concentrate on acquiring occupational skills for employment. Their influencing factors were identified as a combination of learning to learn, learning to connect, and learning to gain employment skills. Career and Technical Education is connecting these students to employment alternatives through relevant education programs that engage, and prepare them for a wide range of career opportunities while providing core academic and technical skills through an integrated, applied, and connected curriculum.

Career and Technical Education generally refers to programs offered at the postsecondary level that contains academic instruction and occupational skills training to prepare individuals for transition to higher education or the workplace (The National Skills Coalition, 2011). CTE provides “an opportunity for individuals to earn stackable, industry-recognized credentials along well-defined career pathways, allowing participants to enter the labor market relatively quickly while maintaining the option for further education and training to enhance career prospects and earnings” (p1). CTE programs are career-focused which allow individuals to develop career-relevant skills, and gain workplace experience as they advance in employment and career opportunities (Carnevale, 2012).

Career and Technical Education Challenges

While CTE has proven to be the catalyst needed to improve student retention and completion, college enrollment, employment opportunities, and labor statistics, it is not without challenges and issues. Researchers at Georgetown University have found that much of today’s labor force lack the basic math and language skills needed to enroll in postsecondary education or career and technical program. As stated in their report “Help Wanted: Projections of Jobs and Education Requirements through 2018” (2010), the author, Anthony Carnevale, states that future jobs will become more dependent on postsecondary education with an estimated 60 percent or more of new positions requiring some level of postsecondary education and 33 percent or more requiring a bachelor’s degree. A related McKinsey study (2012) concludes that
“To create better outcomes for workers and economies policymakers and business leaders across the globe will need to find ways to vastly improve their capacity to provide job-relevant education and training. And, in both developing and advanced economies, new approaches to job creation for low and middle-skilled workers will be required” (pg. 6).

In order to meet the continued demand for a qualified, educated workforce, more will need to be done. According to the Lumina Foundation Strategy Plan 2013 – 2016, 62 percent of U.S. jobs will require some form of postsecondary education by 2025. At the current rate the U.S. will produce approximately 39 million two-and-four-year college degrees by 2025, leaving a gap of 23 million unfilled jobs. The Lumina Foundation Strategy Plan also states that in order to close that gap, there must be a joining of forces between educational institutions, and labor markets/businesses to provide access and success in education individuals among low-income, and first generation students. Lumina’s strategic plan identifies several strategies they will institute to address the challenges in filling the gap. These strategies can also be identified as challenges to postsecondary institutions and career and technical education institutions, as they represent areas of concern in addressing the needs of current and future programs.

- Collaboration among all stakeholders on establishing program objectives, goals, and action plans to increase education attainment at all levels. Stakeholders includes postsecondary institutions, philanthropic organizations, local/regional/state/federal government agencies, and local/state business entities
- Work with local/regional employers to create and strengthen collaborative partnerships that closely align postsecondary education with workforce and civic needs
- Creating partnership among stakeholder groups to develop a common language and plan of action to increasing education attainment
- Encouraging state law makers and policy bodies to develop and adopt goals and plans focused on addressing attainment gaps in underrepresented populations
- Advancing federal policies that link federal workforce development and higher education policy to create new models of student financial support
• Organizing higher education institutions and systems to adopt and increase the use of data and evidence based policies, partnerships, and practices to improve underserved students completion rates

A report by the National Research Center for Career and Technical Education (NRCCTE) entitled, “Six Stories about Six States: Programs of Study (POS)” (2011), found that successful programs contained components of collaboration, alignment inter-institutional articulation and matriculation between secondary and postsecondary institutions, integration of academics with career and technical education (CTE) courses, and activities and long-term plans for achieving Perkins IV and goals for 2013. The study described how six states developed programs of study, identifies elements that each program has in common, and challenges the programs faced during development and implementation. Among the challenges noted were:

• Cultural/mission misalignment between academic and CTE programs: connecting academic teachers and CTE personnel to understand what is needed from both groups to develop a successful relationship.

• Time and resources needed to meet the demands of POS development and certification: paperwork, articulation, collaboration, and group development of curriculum expectations were overwhelming and challenging, not allowing for the time needed to maintain the program, let alone update and revise.

• Real-world occupational pathways not always linear; students, especially adults may not complete a program due to personal experiences, but they were able to benefit from what they learned.

As a point of reference, a Program of Study (POS) is very similar to career and technical programs. Common elements consist of incorporating secondary and postsecondary education elements, the alignment of academic standards with relevant career and technical content in a coordinated and non-duplicated progression of courses that prepares the student to succeed in postsecondary education. One key element of POS is the opportunity for secondary education students to obtain postsecondary credits through participation in dual or concurrent enrollment programs. Even with the above challenges, the study reported on the success of each POS, and how
all the stakeholders collaborated to develop partnerships that connected courses and aligned curriculum, with state and national standards, to deliver a quality POS system that met the needs of students, business and industries.

**Trends in Career and Technical Education in Community Colleges**

The career and technical education systems have played a large role in the development of new, innovative, and targeted certificate programs for individuals in need of updated job skills, or additional education and training. At the postsecondary level, CTE often results in an industry-based certification, a postsecondary certificate, or an Associate’s degree in a particular career or educational pathway (Carnevale, Jayasundera, Hanson, 2012). These programs target adult learners through short-term, accelerated programs that: decrease the time required for completion, utilize flexible learning approaches that take into consideration student’s responsibilities, concentrate education, and skills training on high-demand careers that exist in their local community, and provide wrap-around support services to increase student success. Certificates recognize the completion of a course of study based on a specific field or occupation as opposed to the broader general education approach of two and four-year degrees. Certificates from these programs differ from other types of labor market credentials in that they are earned through seat time in a classroom. Industry-based certifications are awarded based on performance on a test or assessment tool, passing an exam to prove specific competency, completing an apprenticeship program, or attending a company or government training program, irrespective of where the learning took place (Carnevale, Rose, Hanson, 2012).

The Georgetown University report entitled “Career and Technical Education: Five Ways that Pay” (2012), describes postsecondary certificate as a homegrown version of apprenticeship or occupational track. They provide diversity and flexibility in that they vary in program length, purpose, structure, effort, and location. Because their focus is structured toward a specific occupation or field, programs take less time to complete. Approximately 54 percent of postsecondary certificate programs take less than one year of instruction time to complete, and 41 percent take between one and two years, as opposed to an industry apprenticeship program that can take up to four years to complete. The report also describes the rapid expansion in the recognition of certificates holders in the labor market and educational environment, growing from 300,000 awarded in 1994 to approximately 1
millions in 2010. Certificates have over taken both Associate’s and Masters’ degrees as the second most popular postsecondary award, after Bachelor’s degree. One in four Americans who earns a postsecondary certificate, usually awarded by a community college or a for-profit institution, goes on to earn a college degree.

Certificates provide an easier, and at times relatively quick, opportunity to individuals looking to gain the skills, tools and knowledge needed to obtain gainful employment in today’s labor market. It also recognizes the value being placed on certificates by the rapid growth of their awarding over the past 30 years. Certificates are diverse, flexible and with input from businesses, government agencies, educational institutes, and policymakers, they can become more valuable to individuals, postsecondary institutions, the labor market and the nation. Business industries currently accepting certificates include, but are not limited to healthcare, manufacturing, information technology, hospitality, finance, public administration, and many others. Other highlighted findings from the report include:

- Certificates flexibility can serve as a stepping stone to further education and training or be used as a supplement to individuals who have a college degree
- On average, certificate holders earn 20 percent more than high-school educated workers.
- One-third of certificate holders also have an associate, bachelors or master’s degree; two-thirds of those cases, degree holders earned a certificate first.

Through current legislative initiatives under the Obama administration, funding grants have become available for career and technical education programs that train adults to acquire skills and credentials needed to attain better paying jobs. Additionally, from an article on ED.gov website entitled, “Obama Administration Awards Nearly $500 Million in First Round Grants to Community Colleges for Job Training and Workforce Development”, Secretary of Education Arne Duncan stated ‘the president knows that building a well-educated workforce is critical to reviving and strengthening the American economy, these grants will help community colleges and businesses work together to give students the skills they need to compete for good jobs in growing industries’ (pg.1).
The U.S. Labor Department has funded millions in grants to community college programs to provide training to individuals in high-growth fields such as health care, information technology, manufacturing, and green technology. Private philanthropies organizations, such as Jobs for the Future, the Lumina Foundation, Bill and Melinda Gates foundation, to name a few, are strategically collaborating with community and technical colleges, and local businesses and industries to implement new, innovative programs to address the shortage of employees in certain business industries. Across the country these organizations have developed and implemented programs that will not only increase the number of adults earning their GED credentials, but also provide industry specific training that will give them the experience needed to enter the workplace as a skilled and knowledgeable employee. According to Marlene Seltzer, President and CEO of Jobs for the Future, “Many employers are currently unable to fill well-paying jobs because applicants lack the skills. Today’s good jobs require education beyond high school and training that prepares workers with practical skills that employers need” (pg1).

In 2010, the National College Transition Network (NCTN) investigated the field of adult postsecondary transition in seventeen states as a part of the Gates Foundation’s Postsecondary Success initiative. From this study three specific strategies were identified that helped students maintain academic momentum from adult education to and through college to postsecondary credentials. These strategies require adult education systems to extend its mission and services beyond the GED to raising the skills and aspiration of young and older adults. The strategies include:

- Advocacy to increase awareness and support for adult education systems among college, workforce leaders and policymakers through policy changes and availability of resources
- Scalable models to increase the likelihood of student success through effective college and career readiness models aimed to align adult and postsecondary systems and accelerate student progress while providing academic and non-academic support
- Capacity building of program staff through the use of pedagogical strategies such as competency-based learning, differentiated instruction and the intentional use of multiple persistence strategies.
Adding to these strategies, the Department of Education identified the following four core principles that would transform CTE in its 2012 report, "Investing in America’s Future: A Blueprint for Transforming Career and Technical Education”:

1. **Alignment** between CTE and labor market needs to equip students with 21st century skills and prepare them for in-demand occupations in high-growth industry sectors

2. Strong **collaboration** among secondary and postsecondary institutions, employers, and industry partners to improve the quality of CTE programs

3. Meaningful **accountability** for improving academic outcomes and building technical and employable skills in CTE programs, based on common definitions and clear metrics for performance

4. Increased emphasis on **innovation** supported by system reform of state policies and practices to support CTE implementation of effective practices at the local level.

From these and other reports, studies, and initiatives there has evolved several reoccurring principles that successful CTE programs and models should include to make them more adaptive to the needs of not only the labor market and local communities but also to the needs of low-skilled, unemployed/underemployed adults. To support the President’s 2009 challenge, state and local government agencies, adult educators, business and industry leaders, postsecondary institutions, philanthropy organizations, workforce development organizations, and community based organizations are working collaboratively to implement new programs that offer a different approach to adult learners thereby creating career pathways to critical and emerging job sectors and industries. From various studies, journal reports and news articles the following community colleges have been recognized for their innovated career and technical education certificate programs:

- Kankakee Community College (KCC) and the National Science Foundation grant to train students for jobs in the emerging renewable energy technology. The grant will support the development of three certificates in renewable energy technologies while also establishing strategies to create renewable energy jobs. KCC is also partnering with Midwest Renewable Energy Association of Wisconsin to develop a solar PV training model that can
be become available to community colleges nationally (Community College Times, August, 2012).

- Nebraska Central Community College took leadership in addressing the need for a state-wide manufacturing workforce development initiative. Through a state consortium with businesses and educators the school was able to offer students a manufacturing generalist degree after completing 12 hours of core requirements. The degree provided an opportunity for students to continue their education to obtain an industry certificate with 32 credit hours, and eventually earn a full two-year degree (New Department of Labor Initiative Focuses on Workforce Development, November 2013; Diverseeducation.com).

- Northeast Ohio community colleges, the Regional Information Technology Engagement Board (RITE), and five postsecondary institutions including two community colleges, developed the curricula and training needed to produce qualified students to fill local information technology (IT) jobs and positions. Not wanting to outsource IT jobs out of the state or even the country, the RITE board was formed as a collaboration of senior IT executives to focus on three critical areas to fill the skills gap in the regional IT industry: academic engagement, opportunity placement and community outreach. From this partnership adults have been able to transition to new jobs in the IT sector (Aspen Institute, Skills for America).

- In California, the Pacific Gas and Electric (PG&E) worked with thirty-plus community colleges to provide an introduction to the energy industry through their Power Pathway program. The courses are offered on different skills an background levels, with additional assistance available for those needing to improve their literacy and mathematics skills. Participants are eligible for employment upon completion of the program and endorsed programs offered longer term training, leading to certificates or associates degrees (Skills2Compete, October, 2009).

While these are just a few examples of the initiatives, and collaborative programs being implemented throughout the country, each program shares in the strategies highlighted above that make them successful: (1) an accelerated pace of learning, (2) comprehensive support services, (3)
labor market payoffs, and (4) aligning programs for low-skilled adults. These components and others will be reviewed in the next section, Bridging GED and CTE Programs which examines at how community college bridge programs have expanded to incorporate several components of career and technical education programs.

**Bridging GED and CTE Programs**

Community colleges have explored a variety of programs and services to address the needs of low-skilled adults including adult education, non-credit training, remedial education, and in some instances, credit-bearing college level instruction. To assist this population of individuals, bridge programs were developed to be relative short-term programs designed to move students from adult education or community college remediation classes to career and technical training (ICCB website). These programs integrated GED or developmental education with workforce training and professional technical education (PTE). Bridge programs often forced students to complete long sequences of remedial math or English language classes before they could begin their postsecondary education. Due to the additional time to complete classes, the irrelevancies of the content, and the financial cost, students in many bridge and remedial programs rarely continued schooling to earn a certificate or degree.

In the journal brief by the Office of Community College Research and Leadership (2007) entitled *“Lessons Learned from Breaking Through”*, several authors recommend the career-pathway model program which expand bridge programs by “calling for a sequential and sustained education experience that leads to postsecondary credentials” (pg.1). Wisconsin Technical colleges coined the term ‘career pathway bridges’ which incorporated the career pathway concept with bridge programs (Strawn, 2011). These bridges provide targeted basic skills or English language assistance to lower-skilled students to enable them to enter and succeed in career pathway programs. Career pathway bridge models share common elements with CTE programs in that both provide the following:

- Combine basic skills and career-technical content
- Contextualized basic skills
- Uses new or modified curricula
• Modify how classes are delivered
• Support student success
• Connect to local community employment needs

According to the Career Technical Education journal brief entitled “CTE’s Role in Urban Education” (2012), career pathways are programs of study that form a coherent sequence of relevant, career-focused courses within a chosen career field. A career pathway approach combines existing education and workforce services, from a series of disconnected programs, into a structure focused on education and training in a specific career. Schools adopt a pathway program that allows students to graduate with industry certification in a wide range of occupations. Additionally, students are able to accumulate college credits that can later be applied towards completion of an associate’s or bachelor’s degree. The goal of career pathway models is to get students with limited education into career training programs in high growth employment fields such as health care, information technology, manufacturing, and others.

In Zafft’s journal article, “Transitioning Adults to College” (2006), key features of successful models include: (1) teaching and learning of basic education and technical skills contextualized around a specific employment sector, (2) multiple levels of instruction (3) curriculum chunked into clear levels that are recognized by business industries and (4) intensive comprehensive student support services tailored to the expected challenges of the specific pathway. While these certificate programs are taught at the local community college, the institution works closely with area employers and municipalities to develop and implement contextualized curriculum relevant to their current needs and future trends. Career pathway models are not without their strengths and limitations as the table below will highlight:
### Table 4. Career Pathways Model Strengths and Limitations

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<th>Career Pathways Model Strengths:</th>
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<tr>
<td>• Provides access to college-level occupational training for students who are not academically prepared for college-level courses</td>
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<tr>
<td>• Accesses resources for adult transition from public workforce development programs and private employers</td>
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<tr>
<td>• Makes instruction more immediately relevant to student’s career interests through a contextualized curriculum (which likely improves retention)</td>
<td></td>
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<tr>
<td>• Creates stepping stones to career preparation programs that can lead to an academic credential</td>
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<tr>
<td>• Ensures the relevance of the curriculum to available jobs when accompanied by employer involvement</td>
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<th>Career Pathways Model Limitations:</th>
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<tbody>
<tr>
<td>• Can limit students’ options to whatever sector-specific training is available</td>
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<tr>
<td>• May prematurely narrow student’s vocational options</td>
<td></td>
</tr>
<tr>
<td>• May not adequately prepare students for future college-level courses, which can inhibit ability to move from certificate-level programs into associate degree programs and beyond</td>
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Community colleges throughout the country are participating in various initiatives to redesign adult education and GED programs to better prepare adults for a global job market through career pathway models. The new programs are designed to incorporate basic adult education skills with practical, occupational training with the overall objectives to: change the way adult basic education is structured and delivered at the state and institutional levels; ensure that state policies encourage dramatically improved results, in terms of the number of individuals who complete credentials of value in the labor market; and substantially increase the number of adults who can earn a GED and enter the workplace with competitive skills. One way this is being accomplished is through the development of educational and training credentials that are portable and stackable. These credentials provide individuals most at risk of dropping out of high school with career pathways they can use to obtain employment, and use to continue their education, should they so choose.

Austin, Mellow, Rosin, and Seltzer report, “Portable, Stackable Credentials” (2012), describes career pathways as individualized courses of study and training that builds on a person’s unique talents and strengths, while working at their own pace. Career pathways provide a framework for mapping education and job opportunities in an industry or occupational cluster. The program would
include a series of connected education and training strategies, and support services that would enable individuals to obtain industry relevant certification and employment, while having the potential to achieve higher levels of future education and employment advancement. The credentials would be portable, to allow for recognition by employers and educational institutions throughout the country, and perhaps the world, and stackable, so that students who earn short-term credentials with labor market value could build on them by taking more advanced classes, therefore accessing more advanced jobs and higher wages.

At the federal level, both the U.S. Department of Education and the U.S. Department of Labor have taken steps to support portable/stackable credentials and career pathways. Along with the U.S. Department of Health and Human Services, the three agencies issued an April 2012 letter highlighting the commitment of the three agencies to “promote the use of career pathways approaches as a promising strategy to help adults acquire marketable skills and industry recognized credentials through the alignment of education, training and employment, and human and social services among public agencies and employers” (pg.1). The report offered six key guiding principles for developing comprehensive career pathway systems that included: (1) building cross-agency partnerships, (2) identify industry sector and engage employers, (3) design education and training programs, (4) identify funding needs and strategies, (5) align policies and programs and, (6) measure system change and performance.
Just as community colleges are the largest providers of postsecondary education to millions of individuals, they are also one of the largest providers of workforce training, and have an important stake in the workforce investment system. Through various legislative acts, community colleges are able to apply for and receive funding for career training programs as a collaborative partner with various philanthropy groups, business and industries, and regional organizations servicing a targeted population.
Chart 1  
**Industries Supporting Certificates**
Figure 2. Community College Career Pathway
Figure 3. U.S. Department of Education Career Clusters.
Retrieved from www.okcareertech.org
Government Funding: Workforce Initiative Act (WIA)

Employment and training programs started in the 1960’s with the Manpower Development and Training Act of 1962. This was followed with the Comprehensive Employment and Training Act of 1973 and the Job Training Partnership Act of 1982. Career education became an important influence in 1971 under the then U.S. Commissioner of Education, Sidney P. Marland Jr. (www.actonline.org/comingofage). Commissioner Marland used the term to express a major need to reform secondary education. A significant portion of the commission’s discretionary education fund was allocated to projects in the area of career education. Within a short period of time, literature was developed on the subject of career education, and the conflict of distinguishing between career education and vocational training evolved. In 1974, Congress passed the Federal Education legislation and in late 1975, Congressman Carl D. Perkins introduced the Elementary and Secondary Career Education Act of 1976, which was implemented to provide funding for career education throughout the nation.

The Perkins Act is a federal program aimed at improving technical education in the United States through the use of vocational programs and counselors to assist students in preparing for and finding jobs. Administered through the Office of Vocational Adult Education (OVAE), grant also provides funds for postsecondary credit programs, adult non-credit career and technical programs, and external coordination with community based organizations and local employment and training activities connected with the implementation of local one-stop delivery system.

In 1984, the Carl D. Perkins Vocational and Technical Education Act was authorized to increase the quality of technical education and to help the economy. It was reauthorized in 1998. In 2006 the Carl D. Perkins Career and Technical Education Improvement Act was authorized to provide approximately $1.3 billion in federal support for Career and Technical Education in the U.S., aimed at improving technical education through the use of integrated career pathways programs and counselors assisting students prepare for and find jobs. Perkins funds do not provide direct assistance to individuals, but instead provide grants to states for activities relating to the development and implementation of CTE programs at the secondary and postsecondary level. The Perkins Basic State Grant gives postsecondary institutions the flexibility to address local communities’ educational needs
and programs, and funding for innovative occupational education programs that assist students in meeting challenging academic, vocational, and technical standards while also fostering a better link between learning institutions and the business community (National Skills Coalition, 2011). Although Perkins funds may be used to support CTE components of a career pathway bridge initiative, additional federal, state, and local funding must also be used to provide basic skills instructions or other elements of the career bridge initiative (www.CLASP.org). With the Act currently up for reauthorization, the Department of Education has outlined its plan to instill a new era of rigorous, relevant and result driven quality programs. The Perkins Act was reauthorized through the end of 2013 and is currently awaiting approval for extension from Congress (www.acte.org/perkins).

In 1998, the Workforce Investment Act (WIA) streamlined the program to a one-stop delivery system by creating a governance structure consisting of state and local workforce investments boards, and by replacing the local contracting of services with individual training vouchers to deliver training services (American Association of Community Colleges white papers, 1998). Through the WIA of 2009, states were given the flexibility to adapt their services and create collaborative agreements to meet the needs of adults who are unemployed and under-educated. Through the collaborative efforts of state legislators, educational institutions, business and industry leaders, and local and regional government agencies, a new structure emerged for training programs that included:

- State level interagency planning
- The creation of career pathways
- The integration of education and training
- The transition to postsecondary education

On local levels, various collaborative programs were developed among adult educators, local workforce initiative boards and postsecondary institutions (community colleges and career and technical education institutes) that included factors that were pre-cursor to today’s CTE and bridge programs including:
• Integration of soft skills and other pre-employment skills

• Certification using either a national workforce readiness certification (WRC) organization, state adaption of WRC or locally developed certification linked to adult education services

• Accelerated learning services, such as fast track GED or integrated education and training that supports adults in their career pathway in a more efficient and timely manner

Additionally, the Department of Labor has made $2 billion available in grants to help community colleges and others develop and/or expand programs that train skilled workers in direct partnership with businesses. This is in addition to $1.1 billion in funding also provided for rigorous, relevant, result-driven CTE programs. These programs are working to meet the needs of business and industry while providing students clear pathways to well-paying, in-demand occupations and careers.

**States, Governmental Agencies and Community College Programs**

The following are examples of programs developed and implemented using strategies identified in the Lumina Foundation Strategy Plan 2013 – 2016 for addressing the need of an educated workforce. Each program contained several facets of strategies that align workforce needs, education and social services, and other components identified in successful CTE programs.

Washington states’ Integrated Basic Education and Skills Training program (I-BEST) program has received national attention for its highly effective approach to postsecondary training of adults who do not have a high school diploma and other adults lacking education beyond high school. The I-BEST model was among the first of its type to pair workforce training and Adult Basic Education (ABE) or English as a Second Language (ESL), so that students learned literacy and workplace skills at the same time (Jenkins, Zeidenberg, and Kienzl, 2009).

Piloted in 2004-2005, Washington State Board for Community and Technical College (SBCTC) was developed to increase the rate of adult basic skills students entering and succeeding in postsecondary occupational education and training (Wachen, Jenkins, Van, Noy, 2011). Under the model basic skills instructor and career-technical faculty jointly designed and taught college-level occupational courses. The basic skills instructor and workforce instructor were present in the class for at least half of the total instructional time. Any student having difficulty with understanding the technical
material was able to get immediate assistance from the basic skills instructor. This allowed for the students to better understand their basic skills instructions in the context of the technical skills required for employment. Students received college credits for the workforce component of the program but not for the basic skills instructions. I-BEST career fields include architecture/engineering, automotive/engine repair, commercial driver’s license/transportation, corrections/law enforcement, early childhood education/childcare, healthcare, manufacturing/trades, and office support/technology.

The state’s 34 community and technical colleges provided the support courses and services needed to address the concerns and needs of the non-traditional students. The support courses focuses on improving study skills, and providing supplemental instruction for the integrated courses as well as college life and student success. Through support services, dedicated staff and I-BEST coordinators or designated advisors act as a liaison to the various departments that provide additional support for the students. They become the main point of contact for students in the program. Evaluations of the I-BEST program, by The Community College Research Center (CCRC, 2009), found students participating in I-BEST did better than other basic skills students and were more likely to continue into credit-bearing coursework, earn occupational certificates, and had a higher probability of persisting into the second year: 78 percent, compared to 61 percent for the matched group. Several states have successfully copied the I-BEST model and the Gates Foundation is supporting an initiative to replicate the model in state programs supported by the foundation.

In 2002, the state of Kentucky initiated a statewide approach to rethinking their workforce education system (Jenkins, 2008). Selected by the Ford Foundation, the Kentucky Community and Technical College System (KCTCS) participated in the “Community College Bridges to Opportunity Initiative”. This program addressed the issue of disadvantaged students not being served by the current postsecondary training that kept remedial education, workforce skills training and traditional academic education separate from each other. All the colleges in the KCTC system implemented a two-year plan that offered 17 approved pathway projects that target services for over 1,200 new and incumbent workers. These pathways were developed, implemented and maintained through partnerships among secondary and post-secondary education institutions, the state Office of Employment and Training, and employers’ partners.
The most common KCTCS Career pathway sectors included Business, Information Technology, Manufacturing and Industrial Technology, Healthcare/Nursing and Allied Health, and Natural Resources/Energy. Since 2006 all the KCTCS colleges have developed multiple career pathways programs and all students entering KCTCS technical programs are enrolled in career pathways. New initiatives were added to include online, modular Learn on Demand, and Accelerating Opportunity Models. The school also explored how to incorporate wrap-around student services, team-teaching curriculum and competency-based assessments. According to the KCTCS Career Pathway Initiative webpage, the goal of Kentucky’s Career Pathways “is to link academic credits and credentials with a seamless system of career exploration and preparation, and skill upgrades, and to provide multiple entry and exit points spanning secondary, postsecondary, adult and workplace education” (pg. 1).

The Commonwealth of Virginia has attracted attention by developing a national career pathway system model that bridges effective education to a workforce pipeline. In 2008, the state initiated a process to build a statewide career pathway system designed to align policies and publicly supported services and programs to build a workforce customized to meet the needs of its regional labor markets, and create career opportunities for its residents (Goldberg, Alssid, Workforce Strategy Center, 2012). Through a collaborative effort, state education, workforce development organizations, and economic developments systems, at all education and training levels, worked together to drive efficiencies, leverage resources, and maximize impacts in their effort to build a career pathway strategic plan. Based on the program, several initiatives were undertaken to support the development of career pathways for adult learners which included the following:

- The use of the Virginia Longitudinal Database System to track academic and employment history of students, to better support planning and to line and leverage data across the state’s multiple education and workforce programs
- Expansion of the Virginia Community College System (VCCS) to include more extensive career information and to support transition from community college to four-year institutions.
• Expansion in the hiring of support services personnel at each community college to increase workforce retention and completion. This led to the establishment of a statewide Career Coaches Academy.

• Development of a multiple pathway program across the state for the inclusion of high school students, Veteran programs that prepare adult learners for postsecondary success and the Troops to Energy Jobs pilot that assist returning veterans transition into energy jobs.

There are many more state and local community college program success stories being reported on a continual basis, in various educational newsletters, articles, and journals. The ones highlighted above are just a few examples of programs and initiatives designed, developed, and implemented through a collaborative effort involving stakeholders in all areas of education, government, and businesses with an interest in education labor and training. By coming together, and agreeing on effective methods and shared responsibilities, these programs used a systemic approach at the state, regional, and local level, to align workforce, education and social services, three components of the strategies identified in successful programs.

**Foundations and Private Organizations**

While there are many philanthropy organizations and community colleges involved with collaborative career training programs and initiatives designed to provide low-skilled, unemployed or unemployable adults with the occupational skills training and educational knowledge needed to compete and succeed in today's labor market, the following two programs were selected due to their involvement with community colleges in the Midwest region. Both programs have been recognized for their success in improving the adult education structure, and in providing career opportunities to individuals who have had the least opportunities in changing their educational situation. The two programs are the Joyce Foundations Shifting Gears and Jobs for the Future Breaking Through.

**Shifting Gears**

Started in 2007 the Joyce Foundation Shifting Gears initiative’s goal is to strengthen states postsecondary, adult basic education and skills development in six Midwestern states so that more low-skilled workers can obtain the educational credentials and skills training needed to succeed and
advance in today’s labor market. According to the Joyce Foundation’s *Evaluation Synopsis* (January, 2013), one of the biggest challenges for the initiative to overcome was the tendency for the adult education, workforce development, and community and technical college systems to operate independently. It was also challenged in dealing with systems that were not designed to educate low-skilled adults, or to help them move into and succeed in college. Recognizing the complexity and multiple facets of the system change, the initiative provided the states with a framework for identifying, adopting, and implementing innovative strategies for effectively transitioning these adults into a postsecondary environment. This was accomplished by State Shifting Gears team undertaking the project’s six core activities: 1) collaborate to align the work of adult basic education, workforce development, and community and technical college systems, 2) expand state commitment and leadership in support of the work, 3) Adopt and implement necessary policy changes, 4) engage the field of practice and other stakeholders, 5) use date to inform and guide the work, and 6) use multiple communications channels to build awareness and support.

The Evaluation Synopsis report also states that in addition to the funding and leadership, the Joyce Foundation provided technical assistance to support the state’s efforts toward a comprehensive, permanent system change. The initiative was implemented in two phases, the first phase was started to identify and resolve local policy and program issues that affect bridge program instruction and to develop a policy agenda to support bridge program instruction at the state and local level. The second phase continues to focus on policy development, with emphasis on student support services, use of data, communication to a broader audience, sustainable bridge program models and developing practices that can be expanded into other bridge programs. Phase two of the initiative is supported by the Illinois Community College Board and the Department of Commerce and Economic Opportunity.

Statistics from the report state that over a five-year period, starting in 2007, four of the six states, Illinois, Indiana, Minnesota, and Wisconsin, adopted innovative strategies and changed policies that lead to approximately 4,000 low-skilled adults enrolling in new programs. While the approach of each community college varied, the results showed that each site addressed the needs of the local community, each serving a different student population, and different industry sector and occupational requirements. Each of the four states developed a career pathway framework that created new
programs that assisted low-skilled adults transition from adult basic education to community and technical colleges, and gain credentials with economic value.

In Illinois, the Synopsis Report outlined two sites that required students to participate in a college-credit bearing course development. Both students and instructors commented on the importance of a strong career awareness and preparation component in the bridge curriculum. In five of the six Illinois sites, transitional services, and a transition coordinator position was implemented as a core component of the program. This position played an important role in orienting, guiding, and advocating for the students, and was critically important to coordinating support services that were, at times, disconnected within the community college and difficult for students to navigate. Table 2 below outlines the strategies adopted and implemented by the four states involved in the initiative.

Table 5. **Shifting Gears Career Pathway Strategies**

| **Illinois:** | Adult basic education bridge that integrates and connect basic academic skills with postsecondary occupational education in key industry sectors, and involves customized instruction, career development, and student transition services. |
| **Indiana:** | A career pathway strategy, known as WorkINdiana, which provides adult basic education students with access to targeted pre-postsecondary occupational training that leads to certification in valued in the states labor market. In many instances, the certification can be applied for credit at Indiana’s statewide community college. |
| **Minnesota:** | A bridge and career pathway initiative, known as Minnesota FastTRAC Adult Career Pathway, which begins with adult basic education programming at the lowest levels of literacy and extends through community college programming comprised of occupational credit-based course work. |
| **Wisconsin:** | Career pathway and bridges program, known as RISE (Regional Industry Skills Education) which integrates and connect basic academic skills and technical college occupation instruction for adult basic education participants whose basic skills are insufficient for technical college credit courses. |


**Breaking Through / Accelerating Opportunity**

The Breaking Through initiative was launched in 2005 to promote and strengthen the effort to help low-skilled adults prepare for and succeed in occupational and technical degree programs in community colleges (Bragg and Barnett, 2009). As a collaborative initiative the project purpose was to demonstrate that community colleges could create pathways to postsecondary technical credentials
for adults with reading and math skills at or below the eight-grade level, a population long neglected by both the higher education and workforce development worlds. The project was funded by the Charles Stewart Mott Foundation and the North Carolina Smith-Glaxo Foundation and administered by Jobs for the Future in association with the National Council for Workforce Education (NCWE). The foundation of the initiative was set on four high-leverage strategies implemented to address four barriers identified as a reason for the lack of postsecondary educational success among low-skilled adult students.

Those four strategies are 1) accelerated learning, 2) comprehensive support services, 3) labor market payoffs, and 4) aligning programs for low-skilled adults. Table 3 below identifies each challenge and provides the detail on the recommendation to address the challenge.

Table 6. Breaking-Through Initiative Strategies

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<tr>
<th>Strategy</th>
<th>Description</th>
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<tr>
<td>Accelerated Learning</td>
<td>through the innovative use of assessment tools, restructured curricula, targeted instructions, contextualization, and other strategies, change delivery methods, and content so that student can meet their goals faster. Decrease the time low-skill adults must spend in remedial instruction and postsecondary education to obtain college credentials.</td>
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<tr>
<td>Comprehensive Support Services</td>
<td>make academic, economic, and social support services easily accessible to students whose life challenges put them at risk of not completing their education. Access to supportive peers and professionals, both in the college and in the community.</td>
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<tr>
<td>Labor Market Payoffs</td>
<td>restructure both pre-college and college-level instructions to connect course content with the workplace and to connect students with actual employers and workplaces. Include work-related content, preferably working with local employers.</td>
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<tr>
<td>Aligning Programs For Low-Skilled Adults</td>
<td>Reorganize college programs and link them with external programs to provide students with a better understanding of how they can move into and through college, and to provide clear pathways that enable them to do so. Link current disconnected programs such as non-credit workforce training, developmental education, and postsecondary professional technical education to create pathways.</td>
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From the “Breaking Through Evaluation Report” (2010), published by Jobs for the Future, the following are results from the initiative for the 2006 – 2009 time period:

- 78 percent of participants completed their Breaking Through programs and entered credit pathways in construction, nursing, nurse assistant certification and manufacturing.
- 78 percent of students who were unemployed before starting a Breaking Through career pathway program is employed; 72 percent in their career pathway field.
• 47 percent of the students who started in 2006 earned at least one certificate; 14 percent earned an Associate's degree in a high-demand field.

• 80 percent of the initial group of students is employed; 97 percent of those employed are working in the field of their pathway program.

According to the Jobs For the Future report, “Building Integrated Pathways to Sustainable Careers” (2011), Accelerating Opportunity “seeks to fundamentally change the way Adult Basic Education is delivered, and to ensure that state policies encourage dramatically improved results for students in terms of completing credentials of value in the labor market” (pg. 1). The initiative is managed by Jobs for the Future in partnership with the National College Transition Network, the National Council on Workforce Education, and the Washington State Board for Community and Technical Colleges, and has foundation support from The Bill and Melinda Gates Foundation, The Joyce Foundation, the W. K. Kellogg Foundation, the Kresge Foundation, and the Open Society Foundations. According to the JFF report, Accelerating Opportunity builds on the framework, strategies and practices developed in the Breaking Through initiative and Washington State’s Integrated Basic Education and Skills Training (I-BEST), to implemented those proven practices on larger scale in 11 states. To provide guidance and consistency to each state’s program, the initiative has established a set of essential program elements, taken from both the I-BEST model and the Breaking Through best practices. Those programs elements are:

• Explicit articulation of two or more educational pathways, linked to career pathways that begins with Adult Basic Education or ESL, and continues to a one-year, college-level certificate and beyond;

• Evidence of strong local demand for the selected pathways, including the presence on the Workforce Investment Board demand list for local area or other local data demonstrating robust demand;

• Acceleration strategies, including contextualized learning and the use of hybrid (online and classroom-based) course designs

• Evidence-based dual enrollment strategies, including paired courses and I-BEST-like approaches;
• Comprehensive academic and social student supports (e.g., tutoring, child care, transportation, access to public benefits, subsidized jobs);

• Achievement of marketable, stackable, credit-bearing certificates and degrees and college readiness, with an explicit goal of bypassing developmental education;

• Award of some college-level professional-technical credits, which must be transcripted the quarter or semester in which they are earned; and

• Partnerships with Workforce Investment Boards and/or employers.

Accelerating Opportunities ‘ideal’ model diagram illustrates how the essential elements can be incorporated into a career pathway:
The ‘Ideal’ Accelerating Opportunity Pathway

Midwest Community College State Systems Overview

Illinois Community College System

In Illinois, the Illinois Board of Higher Education (IBHE) is responsible for planning and coordinating the state’s system of higher education. This organization is comprised of sixteen members. The Governor appoints ten to a six-year term, one appointed to a one-year term to represent public universities, one appointed to a one-year term to represent private colleges and universities, the chairs of the Illinois Community College Board and the Illinois Student Assistance Commission, and two students selected by the Board’s Student Advisory Committee, one of whom is to be a non-traditional student. The Governor designates the person who will reside as chair of the
Board, and members of the Board select a vice-chair from among their membership (www.IBHE.org/whoweareandwhatwedo).

**Organizational Structure**

Reporting to the Illinois Board of Higher Education, the Illinois Community College Board (ICCB) serves as the coordinating board for the state’s 48 colleges and one multi-community college center in 39 community college districts. According to the Illinois Bridge Initiative, the Illinois Community College Board responsibility is to “administer(s) the Public Community College Act in a manner that maximizes the ability of the community to serve their communities” (pg2.). The ICCB is comprised of citizens appointed by the Governor. Locally elected boards of trustees set policies that guide their colleges in achieving local and statewide goals. Within the system, organized groups represent students, faculty, trustees, staff, administrators, and college presidents, and all of these groups are actively involved in the decision-making process for the System. According to the Illinois Community College Board website, their mission also includes:

- To administer the Public Community College Act in a manner that maximizes the ability of the community colleges to serve their communities.
- To promote cooperation within the system and accommodate those State of Illinois initiatives that are appropriate for community colleges.
- To be accountable to the students, employers, lawmakers, and taxpayers of Illinois.
- To provide high-quality, accessible, cost-effective educational opportunities for the individuals and communities they serve.

**Resources and Funding**

According to the Illinois Community College Board financial reports, funding for the community college system has been structured with financial support from three sources; 1) local communities, 2) the State of Illinois and 3) students and their families, with each providing one-third of the overall funding. For FY2014, the Illinois community college system requests state funding based on the analysis of projected needs and priorities for instructional and public service activities. The Community College System Operating Budget is funded based on unrestricted and restricted grants.
The unrestricted grants can be used for any operating purposes, and the restricted grants must be spent according to grant and expenditures guidelines.

Funding for many of the career and technical education initiatives and projects is provided with grants from philanthropy organizations working in conjunction with Workforce Development agency and the Federal Government. In 2013, Jobs for the Future reports that the Illinois Community College Board was awarded a $1.6 million grant as part of the Accelerating Opportunity: A Breaking Through Initiative. This was part of a $18.5 million collaboration among philanthropies including the Bill and Melinda Gates Foundation, The Joyce Foundation, the W.K. Kellogg Foundation, the Kresge Foundation, the Open Society Foundation, and the University of Phoenix Foundation.

**Bridging GED and CTE Programs**

Funding of this nature has helped to implement, and support various workforce development initiatives and bridge programs. These programs were designed to prepare limited skills adults to enter, and succeed in credit-bearing postsecondary education and training which could leading to employment in high-demand and high-skilled occupations. According to the 2009 – 2010 Illinois Community College Board Biennial Report, career and technical programs was the second largest credit instructional area for community colleges during that time period. In 2009, 26.8% (187,762) of all credit enrollments were in the CTE program area and 36,785 CTE degrees and certifications were completed. In 2010, 28.2% (205,718) of all credit enrollments were in CTE program areas and 39,581 CTE degrees and certificates were completed. The ICCB has appropriated a significant amount of funds to support CTE Programs of Study under the Perkins IV legislation. Programs such as: Lewis and Clark Community College in Godfrey, Illinois bridge program with a manufacturing focus; Oakton Community College, in northeast Cook County, bridge program with a local long-term care provider to prepare their employees for the LPN Program; and Elgin Community College in Elgin, Illinois, I-CAPS program, which prepares basic skills students for workforce in one of its vocational certificate programs.
Figure 5. *The Illinois Accelerating Opportunity Initiatives Ideal Model*
Adapted from *Jobs For the Future Accelerated Opportunity Model*. Retrieved from http://www.acceleratingopportunity.org/virtualacademy/about/models
Wisconsin Technical College System (WTCS)

Organizational Structure

The Wisconsin Technical College System (WTCS) is comprised of 49 campuses in 16 college districts throughout the state. Each district is governed by a nine-member board appointed by local elected officials from within the district. District Board members serve three-year terms, which are staggered so that each year three board positions become open. The District Board consists of two employer members, two employee members, three additional members, one elected official member who holds a state or local office, and one school district administrator. According to the WTCS website, their mission “is to provide citizens with comprehensive technical and adult education that:

- Enables individuals to acquire the occupational education necessary for full participation and advancement in the workforce
- Provides basic education to adequately prepare citizens who would not otherwise be able to attend college
- Fosters economic development through on-site training and technical assistance to business, industry and labor.”

The Wisconsin Technical College System is supported by a collaborative relationship developed with various businesses, industry and organizations. These relationships allow the colleges to develop training programs that integrate the latest technology, and methodology into innovative program curriculum that teaches the skills and provides the experience graduates need to enter into their chosen career. The 16 colleges offer over 300 programs that lead to two-year associate degrees, one and two-year technical diplomas and short-term technical diplomas. In the CLASP report, “Giving Credit Where Credit Is Due” (2011), the Wisconsin technical colleges have incorporated apprenticeship-related instruction as approved academic programming with full program status. Having this status allows students to earn 39 credits through an apprenticeship program and those credits be applied toward the 60-credit Journeyworker Applied Associate in Science (AAS) degree. The WTCS website states, “the System is the major provider of customized training and technical assistance to various businesses and industries in the state.”
Resources and Funding

According to the Wisconsin Technical College System website, the State General Purpose Revenue funds provide support for targeted programs within the technical colleges that have been identified by the WTCS, the legislature, and the Governor as priorities for state support. Additional funding is provided through the Department of Commerce with other state agencies collaborating on state economic development grants through the Workforce Advancement Training Grants; the Carl D. Perkins Career and Technical Education Act, Perkins IV Grant funds, as well as funding received from various governmental agencies, philanthropy groups and organizations. In 2013, the U.S. Department of Labor awarded the Wisconsin Technical College System with a $23 million grant to address their needs in the Information Technology sector. The WTCS has previously been awarded an $18.3 million grant to expand their innovative program in advanced manufacturing. A September 18, 2013 news release by WTCS states “Wisconsin’s technical colleges received one of the largest single awards from the Department of Labor’s investment, and the collaboration makes the technical college system one of the few applicants to receive back-to-back grants”. The Joyce Foundation has also provided funding to support similar programs that embed short-term postsecondary certificates into larger associate degree programs.

As recently as March 2014, Wisconsin’s Governor Scott Walker signed into law a $35.4 million dollar bill for workforce training grants to expand the Wisconsin Fast Forward Program. The funding will be used to reduce the waiting list of enrollment, programs, and courses in high-demand fields (Associated Press, March 18, 2014).

Bridging GED and CTE Programs

The Wisconsin Technical College System, in collaboration with Wisconsin Department of Workforce Development, is responsible for the development of the state’s Regional Industry Skills Education initiative (RISE). Funded in part through the Shifting Gears grant from the Joyce Foundation, this state effort initiative created career pathway and bridge programs that provides flexible, accessible ways for lower-skilled adults to earn postsecondary credentials that are of value in the local labor markets. Through ongoing support and partnership between Wisconsin’s Industry Partnerships, the Department of Workforce Development and WTCS the initiative has implemented
many successful programs. The following are a few such programs identified in the Center on Wisconsin Strategy report entitled Building Bridges in Wisconsin;

- Chippewa Valley Welding Career Opportunities, which is a 16-week, 9-credit certificate program in production MIG welding,
- Northcentral ELL-Nursing Assistant Bridge program that integrates 3 credits of ELL instruction into a federally mandated nursing assistant (CNA) curriculum,
- Moraine Park Technical College Artisan Baking/Culinary Bridge program which, upon successful completion of the Baking Essential Certificate, provided the students with seven postsecondary credits which could be applied towards the school’s year-long Baking Certificate as well as the school’s Culinary Arts Associate Degree program.

Figure 6. Wisconsin Career Pathways Including Bridge Instruction

According to a Jeff Engel news article, (July 30, 2012) The Business Journal, The Wisconsin Technical College System has teamed with nine other states, the Alliance for Quality Career Pathways, Center for Law and Social Policy (CLASP), and the Joyce and James Irvine Foundations to create a framework of benchmarks and success measures for career pathway initiatives and new educational models. WTCS president at that time, Dan Clancy, acknowledged WTCS success with new educational models that were flexible in responding to the changing training needs of both
students and businesses. It was his goal for this study to “recognize what results in a successful program and how best to measure that success” (pg.1). The Wisconsin Technical College System adopted a system-wide definition for career pathways, incorporating adult basic education bridges and connecting the bridges to state recognized technical college programs that included ‘embedded career pathway credentials” either as a technical diploma or a career certificate. The WTCS offers more than 300 programs awarding two-year degrees, one and two year technical diplomas, and short-term technical diplomas and certificates.

Indiana Commission for Higher Education

Organizational Structure

According to the Indiana Government website, The Indiana Commission for Higher Education is a fourteen member public body appointed by the Governor. The Commission includes representatives from the nine congressional districts, three at-large members, a faculty and a student representative. Each district representative serves a four year term and the appointed faculty and student representatives serves a two year term. The Commission is not a governing board, but more of a coordinating agency that works with the state’s public and independent colleges. Created in 1971, the commission mission is “to define the missions of Indiana’s colleges and universities, plan and coordinate the state’s postsecondary education system, and ensure that Indiana’s higher education system is aligned to meet the needs of students and the state” (Reaching Higher, Achieving More, 2012, pg.2). Public institutions in the commission consist of six universities, two with multiple campuses thorough the state, and one community college with 31 campuses through the state.

Resources and Funding

According to the state’s report, “Reaching Higher, Achieving More” (2012), general funding comes mostly from tuition, fees, and state appropriations on a two-year budgeting cycle. Some institutions receive grant funds and private donations from outside sources for specific purposes and programs. In 2013, two pieces of legislation was signed by Indiana’s Governor Mike Pence that reinforced the state’s career and technical education programs (Stokes, 2013). As stated in an April, 2013 news article, reporter Brandon Smith states:
“The first bill created regional Works Councils that will work with the private sector and educational organizations to identify needs in the area’s workforce create partnerships between schools and businesses for internships and apprenticeships, and to boost career and vocational education in high schools. The second bill created a state career council that brings all of the state’s job creation and educational efforts together at one table” (pg. 1).

**Bridging GED and CTE programs**

In the state of Indiana, postsecondary level career and technical education is delivered through the statewide Ivy Tech community college, Vincennes University, and four-year universities that offer associate of science degree programs. The Ivy Tech community colleges consist of 14 operating regions, each with a Corporate College division that offers specialized credential-based workforce training.

In 2008 Indiana Chamber of Commerce, Department of Workforce Development and Ivy Tech Community College committed to a collaboration transition between adult education, and the community colleges (Office of Vocational and Adult Education, 2008). The joint project was a part of the Joyce Foundation Shifting Gears initiative which supported the states policies and practices to increase the number of workers who obtained postsecondary credentials. Local pilot programs joined adult education at two community college campuses, thus providing for cross-training of staff, referral services for students, and assistance to help students successfully transition to community college studies. The project efforts were focused on improving postsecondary options for low-skilled and working adults, while also directing policy changes for improving data collection and reporting (OVAE, 2008).

Ivy Tech community college and Conexus Indiana, an advanced manufacturing and logistics (AML) company in Indiana, have collaborated on the Hire Technology initiative. This is a two-year, turnkey program designed to provide students with the skills, training, and knowledge needed to students to complete industry-recognized certificates and earn dual credit, all while preparing for post-secondary programs and careers in AML (ACTE Fact Sheet, 2013, pg. 1).

Recent legislation has provided 4.3 million dollars in grants funding to Indiana’s Center for Education and Career Innovation. The funding is distributed to local organizations throughout the state to provide for scholarships, internships, and more certification opportunities in technical training fields. Three of the first round postsecondary recipients include: 1) Career Pathways in Healthcare in
Elkhart, 2) Vincennes University manufacturing collaboration with Jasper Engines, Toyota, and Master Brands Cabinets and other, and 3) Ivy Tech advanced manufacturing program in collaboration with Chrysler, and Warsaw Career Center. These efforts are the results of collaboration with the Department of Education, Commission for Higher Education and Department of Workforce Development in the state to integrate state efforts in education and workforce to deliver new programs that deliver change to improve students/residents employment outcomes.

Indiana will be participating in the U.S. Department of Education, Office of Career, Technical, and Adult Education (OCTAE) funded project, Moving Pathways Forward project (https://www.acteonline.org/ctepolicywatch.post). This is a three-year project that will assist Indiana and thirteen other states in advancing career pathway systems to transition low-skilled adults to postsecondary education and employment. The model is built on the successes and lessons learned from earlier federal and state career pathway programs. Funded by the U.S. Department of Education's Office of Career, Technical, and Adult Education, the program is scheduled for implementation in the Fall of 2014 (www.lincs.ed.gov/movingpathways).
Figure 7. Indiana Career Pathway Model
Conceptual/Theoretical Framework

The conceptual framework for this study will focus on factors that influence and motivate GED students to continue their educational endeavors once they have obtained a GED certificate. While numerous theories on retention and persistence are applicable, this research will look through the lenses of the Social Cognitive Career Theory (SCCT) of Lent, Hackett and Brown's (1999), Astin's Theory of Involvement (1984 - student and academic), and Tinto Theory of Retention (1975, 1993).

Social Cognitive Career Theory (SCCT)

Lent, Hackett and Brown’s (1999) Social Cognitive Career Theory (SCCT) model takes a “cognitive perspective view of the complex connections between persons and their career-related contexts, between cognitive and interpersonal factors, and between self-directed and externally imposed influences on career behavior” (256). The model explains how individuals’ form career interest, set vocational goals, persist in work environments, and attain job satisfaction through self-efficacy beliefs and outcome expectations.

Lent (1999) based the SCCT model on Bandura General Social Cognitive Theory (1986), of which Bandura believed that individuals are shaped by their environment, and at the same time they impact their environment as a person, and in their behavior. This relationship between person factors, outward behavior, and environment is referred to as a “triadic reciprocity” (pg. 23). The relationship between any two of the three factors is bi-directional; there is constant movement between the variables with differential strength of each depending on the situation. Also influencing individual’s actions are their self-efficacy, or belief in their capabilities to succeed in a particular situation. According to Bandura (1986), individuals can have varying levels of confidence in their abilities across a multitude of domains, which affects their judgment and their abilities to perform specific actions.

Lent et al. (1999) expanded on Bandura’s work, focusing exclusively on the development of individuals in the context of career, believing that intrinsic and extrinsic factors influenced psychosocial functioning:

“In formulating SCCT, we tried to adapt, elaborate, and extend those aspects of Bandura’s theory that seemed most relevant to the processes of interest formation, career selection, and
performance. We also took a good deal of liberty in suggesting certain theoretical paths and connections that do not follow directly from general social cognitive theory” (pg. 258).

Lent (1994) theorized that self-efficacy, and outcome expectations lead to the formation of vocational interest which lead to the intention of becoming involved in activities that are consistent with that interest. Individual success in a given task then influences their self-efficacy belief. To Lent, that self-belief and/or outcome expectations could lead to activity engagement regardless of whether the individual develops career-specific interest. The SCCT models were developed to understand the ways in which 1) career and academic interests are formed, 2) career choices are implemented, and 3) career performance outcomes are achieved. This theory can be applied to students who find the need for employment instead of continuing their postsecondary education. The job represents a way to earn an income, regardless of whether the student is interested in the occupation. Similar to Bandura’s General Social Cognitive Theory, the SCCT model has a fully bi-directional (triadic-reciprocal) scheme where personal attributes, external environmental factors and overt behaviors (distinct from internal and physical qualities of the person) interact in forming one’s self-efficacies.

The SCCT theory identifies three building components of career development: (1) self-efficacy, belief about one’s ability to succeed, (2) outcome expectations, beliefs about the outcome of performing particular behaviors, and (3) personal goals, the determination to engage in a particular activity or to affect a particular outcome. While both the social cognitive theory and the SCCT theory emphasize an interactive relationship between environment, personal factors, and behaviors, the SCCT theory emphasizes the individual’s self-efficacy system that affects behavior. According to Lent (1994), there is a connection between past performances, self-efficacy, outcome expectations and goals, in determining performance outcomes. The theory also proposed a feedback loop between performance attainment and subsequent behavior; that the attainment of performance goals moves individuals along a chosen career path.

**Social Cognitive Career Models**

Lent et al. (1999) SCCT framework captures career-related interest, choice, and performance into three inter-related models: (1) the Interest Development Model, which examines self-efficacy and
outcome expectations effect on career interest, (2) the Model of Person, Contextual, and Experiential Factors Affecting Career-Related Choice Behavior, which includes the effect of the person, contextual, and learning influences on choice behaviors, and (3) the Model of Task Performance, which is concerned with the effect of individual accomplishments on their career-related pursuits.

*Interest Development Model,*

In the Interest Development Model, both experiential and cognitive factors are shown to influence career-related interest. The model, displayed below in figure 8, shows the effect of self-efficacy and outcome expectations on the formation of career interests. More specifically “SCCT asserts that people form enduring interest in an activity when they view themselves as competent at it and when they anticipate that performing it will produce valued outcomes” (Lent, Brown, and Hackett, 2002, pg. 265). Individuals are attracted to activities they feel capable of performing, and expect positive outcomes. As their confidence increases they form goals for continuing or increasing their involvement in the activity. Any attainment received from performing the activity forms an important feedback loop that helps to solidify or reshape their self-efficacy, outcome expectation, and interest. Individuals successfully completing and passing the GED exam have reported their feelings of accomplishment and increased self-confidence in themselves and their abilities to continue their education.
Realizing that the Basic Career Interest model is influenced by self-efficacy and outcome expectations, Lent et al. (1994) expanded the model to include other contextual factors (gender, race-ethnicity, physical health or disability, socio-economic condition) that are closely related to social cognitive variables and the career development process. In the Personal, Contextual, and Experiential Factors model, shown in figure 9 below, Lent (2002) et al. regards gender and race as attributes that are interwoven aspects of a person’s socially constructed world, and have relevance to their career development from a social-cultural environment and from a structure of opportunity within the actual career. Simply put, all things being equal, a person will chose/develop choice goals for an occupation in which they are interested. But these choices are affected by contextual influences and other person variables. Examples of this would be individuals compromising their interest in a career choice if they perceive the environment is not supportive of their choice, or if they perceive significant barriers and obstacles to overcome. When there is a need to compromise because of limited opportunities, challenging barriers or a non-supportive environment, their choices will then be made on the basis of job availability, self-efficacy beliefs, and outcome expectations. They will choice less interesting
occupations that are available, provide adequate outcomes, and in which they feel they are able to perform.

It should be noted that the Person, Contextual, and Experiential Factors model, shown below as figure 9, includes the Interest Development model, where the goals and actions variables are now specific to career-related outcomes. The process can be divided into three parts: 1) the expression of a primary choice or goal, 2) actions designed to implement one’s goals, and 3) performance attainment (successes or failures) that forms a feedback loop thus affecting the shape of future career behaviors.

Figure 9. SCCT Model of Person, Contextual, and Experiential Factors Affecting Career-Related Choice Behavior

In both models path 1 and 2 self-efficacy and outcome expectations promote particular career-related interest. Interest, in turn, influences goals, intentions, or plans to pursue a particular career path (path 3), and goals stimulate actions designed to implement the goals (path 4). The goal-related actions lead to performance experiences (path 5), the outcomes of which help to revise or confirm self-efficacy and outcome expectations (path 6), and thereby solidify or redirect one’s choice behavior. Career-choice goals and actions may be influenced directly by self-efficacy and outcome expectations (path 8 – 11). These supplementary paths explain real-world instances where individuals need to
compromise their interests in a career path due to job availability, in addition to self-efficacy and outcome expectations (Lent, et al., 2002, pgs. 273, 274).

**Performance Model**

The Model of Performance, shown in figure 10 below, emphasizes the relationship among the individual’s self-efficacy, outcome expectations, and goals in determining performance outcomes. Individual’s abilities can affect their performance, either directly or indirectly, which impacts self-efficacy and outcome expectations. Self-efficacy and outcome expectations, in turn, affect the level of performance goals that an individual set for themselves. The stronger the belief in one’s abilities to perform, and the belief in favorable outcomes, the more ambitious the goals, and performance behavior will be towards meeting those goals. The opposite is also true, in that the risk of occupational or academic failure can occur when individuals abilities fail to correspond with the abilities needed in an occupation or course of study.

![Model of Task Performance](source: Copyright © 1993 by R. W. Lent, S. D. Brown, and G. Hackett. Reprinted by permission.)

**Figure 10. SCCT Model of Performance**


**Astin’s Theory of Involvement**

Similar to the SCCT theory, Astin’s Theory of Involvement (1984) is based on the philosophy that the more students are involved in both the academic and social aspect of their education, the more they will learn. Three factors which influence involvement are (1) academic involvement, (2) student involvement and (3) student peer involvement. Student involvement occurs along a continuum,
changing at different times, and at various stages. A highly involved student would be one who spends a considerable amount of time on campus, is involved in student organizations, campus activities, and has frequent interactions with faculty, administrators, and other students (pg. 297). Other factors influencing student involvement include family, friends, jobs, and other outside activities (p. 303).

This research will look at the areas of student and academic involvement. These two areas closely align to the components and underlying premises in the SCCT theory on self-efficacy, outcome expectations, and personal goals. Both theories see performance and attainment of goals changing as individuals move along a certain path.

To Astin (1984), involvement was a behavior component of what the individual does, or how they behaved versus what the individual thinks or feels. The five basic postulates of this theory are identified as (p. 298):

1) involvement refers to the investment of physical and psychological energy in various objects
2) regardless of the object, the involvement occurs along a continuum
3) involvement has both quantitative and qualitative features
4) the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in the program
5) the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement.

Of the five, the last two refer to key education postulates included for the designing of more effective educational programs for students. Institutional policies and practices, academic and non-academic, can have an impact on increasing or decreasing student involvement (308).

Astin (1984) recommended several applications of the theory of involvement for faculty, staff, and administrators in higher education which included encouraging instructors to focus less on content and teaching techniques and more on what students are actually doing; the application of what is
being taught and the intended outcomes of the learning. This would maximize the students’ involvement and learning (305). Additionally Astin (1984) considered the impact of student peer groups on enhancing student involvement in the learning process. He noted that at the pre-collegiate level research suggested that student’s commitment to academic work could be strongly influenced by student peer groups.

Astin (1993) expanded the student involvement theory to include the factors on peer groups and faculty interaction. In *What Matters in College* (1993) Astin notes that

> “the student’s peer group is the single most potent source of influence on growth and development during the undergraduate years; students’ values, beliefs, and aspirations tend to change in the direction of the dominant values, beliefs, and aspirations of the peer group” (p. 398).

Astin (1993) defines a peer group as a collection of individuals with whom the individual identifies and affiliates and from whom the individual seeks acceptance or approval. He theorized that the prime consideration for the formation of peer groups would be twofold; 1) to find a common ground on which identification can occur (a common ground or career interest, curricular interest, vocational interest, and so on), and 2) to provide opportunities to interact on a sustained basis (p. 423). Astin continues to explain that having a group of students (in general education programs) take the exact same courses together provides a common experience that can stimulate student discussion inside and outside of class, and facilitate the formation of strong bonds among the students.

Next to peer group, the interaction between individual student and the faculty has widespread effects on student development. Astin (1993) found that student involvement with faculty has a direct positive affect to learning, academic performance, and degree attainment. Wide-range contact with faculty members contributes to student growth, both intellectually and socially, both inside and outside of the classroom. This was found to be true of all students regardless of differences in abilities, prior level of development and prior educational experiences (384). Astin (1993) recognized student involvement that leads to talent development, requiring faculty who are committed to encouraging, and challenging each individual student to reach their full potential, regardless of the student’s level of development.

Astin (1993) noted that student learning and development can also be affected by the effectiveness of the institutions’ practices and policies and is directly proportionate to the quality and
quantity of the student’s involvement. With many community colleges serving a different population (older, part-time adults and vocational or terminal occupational students), he noted that the vocational or occupational programs have a very high retention rate mostly due to the powerful peer bonds among student participants. Even with diversity regarding age, academic preparation, and social background, these students are able to form a strong sense of community and peer identification because the programs are small, the student share common interests, and are exposed to a common set of curricular experiences. The offering of night and weekend classes make it possible for students who work at outside jobs or are responsible for families, to complete a program. Astin (1993), realizing that there is little published research on such programs, offers that the reason for the program’s success is possibly due to relatively small classes with regular faculty members who are primarily responsibility for classroom curriculum and academic advising. This allows for a closer student-faculty interaction and creates an environment where students feel comfortable in sharing and working together to achieve their goals.

**Tinto’s Theory on Retention**

Tinto’s Theory on Retention (1975) identified factors which influence student’s commitment to postsecondary education. This theory uses Spady’s Theory of College Dropout (1970) and Bean’s (1980) Theory of Student Attrition as a basis.

Spady (1970) identified five variables that, when linked to a student’s satisfaction with their postsecondary educational experience, and their institutional commitment, will determine whether a student decides to remain in their program or dropout of school; (academic potential, normative congruence, grade performance, intellectual development, and friendship support). Bean (1980) added the importance of background characteristics (prior academic performance, distance from home, and socioeconomic status), as well as student satisfaction and interaction with the institute, in determining whether a student would depart from school.

Tinto’s (1993) model, building on these theories, identifies the six elements that influence a student’s decision to continue their higher education; (1) prior schooling and family background, (2) student commitment and institutional goals (3) institutional experiences with academic administrators, (4) academic and social involvement, (5) intentional and external commitments, and (6) outcomes or
departure decisions. For the purpose of this study, the research will look at four of the six areas of influence; prior schooling and family background, student commitment and institutional goals, institutional experiences with academic administrators and faculty, and intentional and external commitments. These elements closely align to the components, and underlying premises in the SCCT theory on self-efficacy, outcome expectations, and personal goals.

Tinto (1993) contends that students begin their postsecondary education experience influenced by the above elements which play a part in determining the student’s goals and commitments. Upon entering the institution, students will continually interact with the institutions attributes (academically and socially, formally and informally). The level at which the student is able to integrate and associate the institutions attributes with their own will determine if they complete the program or dropout.

In identifying specific characteristics of the attributes, Tinto (1975) mentions the most important pertain to family, individual characteristics, educational experiences prior to college entry and expectations concerning future educational attainments. Of these characteristics, Tinto finds that the most important factors are the quality of relationship within the family, the interest and expectations parents have for their children’s education, and the students own educational performance and commitment to the goal of college completion. Tinto sees the educational expectation having an influence on the specific type of postsecondary institution the student attends, given their disposition, financial resources, and time commitment toward completing a program. Students with low goal commitment have been found to come from lower social status backgrounds with inferior schooling prior to college, and may withdraw from a program due more to insufficient rewards gained in the social system of the college than to poor grade performance. Tinto (1993) propose that programs that not only influence academic performance, but also provide sufficient social integration will provide greater commitment to the institution and enhance the student’s persistence in college.

Both Tinto’s (1975) and Astin's (1984) theories identify academic and social integration as important components to students successfully completing their postsecondary endeavors. The Social Cognitive Career Theory (SCCT, 1994) builds on these components by adding individual’s beliefs about their abilities to succeed, along with past performances, accomplishments, and beliefs on
expected outcomes. The SCCT model also adds that individuals eliminate possible occupations due to faulty self-efficacies or outcome expectations; the greater a barrier to an occupation, the less likely the individual is to pursue those careers. These individuals need assistance in identifying barriers and in developing plans to overcome them. By faculty and college administrators assisting students to modify faulty self-efficacy and outcome expectations, students acquire new experiences and see new career opportunities. The principles of student peer groups and student-faculty interaction is relevant to several bridging and career pathway programs. Several programs develop cohorts programs for students in several career pathways. Within the groups, which can include dedicated faculty, bonds are developed that provide support, assistance, and a feeling of belonging among the participants. Astin (1994) noted that students tend to change their values, behavior and academic plans in the direction of the dominant orientation of their peer group (p. 363).

Summary

The purpose of this chapter was to provide a look at GED and CTE programs; from their history, and development to their current application within community colleges. The chapter offered a brief historical perspective of community colleges and the value they have provided to older adults looking to further their postsecondary education. It also provides an in-depth look at the GED program; from its history, and challenges faced by students preparing for the exam, to trends in the new programs being implemented throughout the country. Additionally, the chapter details Career and Technical Education programs and their application in community colleges. Special emphasis was given to new programs being implemented across the country that are the results of a collaborative effort between community colleges, local and regional business industries, local and state government agencies, federal government programs, and philanthropy organization.

This chapter includes an overview of the community college system for the three Midwestern states used to gather research data for this paper. This section includes a look at the college system’s organizational structure, resources and funding, and how GED and CTE programs are working in each state. For certain states limited literature was available.

Lastly this chapter introduced the conceptual framework which provides the lens through which data analysis will be organized. Through Lent, Brown, and Haskett (2002) Social Cognitive
Career Theory, Astin (1984) Theory of Involvement, and Tinto (1975, 1993) Theory of Retention, the research will link components of each model to the guiding questions used during the interviews. It is the goal of this research to identify components of each theory to successful Career and Technical Education certification programs, and demonstrate how those components impact GED students as they complete their educational journey.
Chapter 3: Research Methodology Design

Introduction

This chapter describes the research methodology utilized to explore the factors that influence to the matriculation and completion of GED students to career and technical education certification programs in community colleges. The structure for this chapter includes a definition of educational research, an explanation of the research design methodology selected, the data collection methods, data analysis procedures, validity and reliability, research limitations, researcher’s bias, and ethical considerations relating to the research. The Data Collection section describes the four methods used: interviews, surveys, document reviews, and field notes. The Data Analysis Procedure section describes the multiple case-study analysis used to code and identify themes from the data gathered.

Research Design Method

What is educational research and why is it important to educators and institutions of higher learning? Creswell (2002) states that educational research is:

“a cyclical process of steps that typically begins with identifying a research problem or issue of study. It often involves reviewing the literature, specifying a purpose for the study, collecting and analyzing data, and forming an interpretation of information. This process culminates in a report, disseminated to audiences that is evaluated and used in the educational community”.

Creswell also notes that the purpose of educational research is to improve practice, add to knowledge, address gaps in knowledge, expand knowledge, and add voices of individuals to knowledge. According to the American Educational Research Association website (What is Education Research, 2012), the primary purpose for performing educational research is to gain an understanding on how people think and experience their lives.

“education research aims to describes, understand and explain how learning takes place throughout the life cycle and how formal and informal processes of education affect learning, attainment and the capacity to lead productive lives. The unifying purpose for education research is to build cumulative and sound knowledge about human and social process of fundamental significance to individuals, to groups and to the larger society”.
There is a gap in data and information on GED students pursuing any form of postsecondary education. More educational research is needed to address the gaps and lack of knowledge on why students who received their GED do not pursue some form of postsecondary education. More educational research is needed to add a voice to those individuals who persevere through challenges and obstacles to continue their educational endeavors after obtaining their GED. More educational research is needed to identify educational models and curriculum that will reshape, and restructure how we teach and support individuals who, for whatever reason, find it difficult to continue their studies.

**Quantitative Research Method**

In determining the appropriate design method to use one would need to review the structure and nature of the three; quantitative, qualitative, and mixed. According to Johnson and Christiansen (2004) quantitative research uses deductive or confirmatory scientific methods. The research tests hypotheses and theories with data. It is used to describe, explain or predict based on quantitative data, and the analysis of variables. The focus of quantitative research is a narrow-angle lens used to test specific hypothesis. The nature of the reality being researched is objective, and the data collected is based on precise measurements using structured and validated data collection instruments. The nature of the data is variable, and the data analysis looks to identify statistical relationships. The findings are presented in the form of statistical reports with correlations, comparisons of means, and reports on statistical significances of the findings. In general, quantitative research looks to measure incidences of various views and opinions in a chosen sample. It filters out external factors, so the results can be seen as real and unbiased. This type of research is best used in proving or disproving a hypothesis.

**Mixed Methods Research**

A mixed method design is a procedure to collect, analyzes, and mix both quantitative and qualitative research in a single study to understand a research problem. Yin (2009) describes mixed method research as a “design where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts and languages into a single study” (p.63). Mixed methods are used to incorporate a qualitative component into an otherwise quantitative study.
In this method the research questions are shared, the data collected is complimentary, and the analysis is conducted in a mixed manner. According to Yin (2009), Mixed research methods allows the researcher to ask more complex, complicated questions, and to collect a richer range of responses, patterns, and evidence than any single method. While mixed methods research provides the best of both research methods in one study, they are more difficult to execute than any single method.

**Qualitative Research Method**

Where quantitative research focus through a narrow-angle lens, testing specific hypothesis, qualitative research looks through wide and deep-angle lenses, examining the breadth, and depth of a phenomenon to learn more about it (Johnson and Christiansen, 2004). Qualitative research generates new hypothesis and theories from the data collected. It studies behaviors in its natural environment, collecting narrative data using semi or uninstructed instruments. According to Merriam (2009), “qualitative researchers are interested in understanding how people interpret their experiences, how they construct their worlds, and what meaning they attribute to their experiences” (pg. 5). Additional Merriam states the overall purpose of qualitative research is to achieve an understanding of how people make sense out of their lives, delineated the process (rather than the outcome product) of meaning-making and describes how people interpret what they experience. According to Creswell: (2007)

“We use qualitative research to develop theories when partial or inadequate theories exist for certain populations and samples or existing theories do not adequately capture the complexity of the problem we are examining. We conduct qualitative research when we want to empower individuals to share their stories, hear their voices, and minimize the power relationships that often exist between a researcher and the participants in a study (p.40).

According to Stake (2010) there are several identifying characteristics of a qualitative study, four of which are; (1) it is interpretive (it keys on the meaning of human affairs as seen from different views); (2) it is experiential (it is empirical, field oriented); (3) it is situational (oriented to objects and activities, each in a unique set of contexts), and (4) it is personalistic (working to understand
individuals perceptions) (p. 15). Qualitative research has moved social research from an emphasis of cause and effect explanation toward one of personal interpretation (p. 31).

The nature of the data is words, images, themes and categories, and the findings are reported using narratives which include contextual description, categories, themes, and supporting respondent quotes. The main concern is to understand the phenomenon of interest, from the participants’ perspectives (p. 14). Relative to this research, the researcher will look to provide meaning to the influences and decisions made by students with GED certificates regarding the continuation of their postsecondary education. The findings will be explained using terms and narratives taken from the participants’ perspective, providing a voice of knowledge that can potentially influence current and future certification programs.

Case Study methodology:

Case study research allows for the exploration and understanding of complex issues. Through case study methods, researchers are able to go beyond quantitative statistical results and understand the behavioral conditions through the individual’s perspective. Detail qualitative accounts not only help explore or describe the data in real-life environments, it also helps explain the complexities of real-life situations, which may not be captured through other research methods. For the purpose of this research, a multiple-case study methodology was selected to address the research purpose. Merriam (2009) defines case study as an in-depth description and analysis of a bounded system. Creswell (2007) defines it as research involving the study of an issue explored through one or more cases within a bounded (i.e., setting, a context) system (p. 73). Yin (2008) defines case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and the context are not clearly evident” (p.18).

Through utilizing a multiple-case study methodology, the research will be able to explore differences within and between cases, thereby identifying replications across cases, providing robust, rich descriptive results and better insights into the detailed behaviors of the participants (Yin, 2003). This research will be based on the use of multiple-case samplings from community colleges in three different Midwestern states. The findings from the research will provide feedback and insight from
individuals with commonalities within their school and locations but also identify common themes and patterns within the bound system.

Case study methodology is not without its critics. Yin (2003) argues that case studies are often accused of lacking rigor, allowing equivocal evidence or biased views to influence the direction of the findings and conclusions. Yin also states that case studies provide very little basis for scientific generalize since they use a small number of subjects. The intent of the study is to identify underlying motives and factors that influence GED students’ decisions and opinions in continuing their education to pursue a career/technical certification. To address the short coming of case studies outlined above, the research involved not only community colleges in different states, but also include data from individuals in the community colleges who have worked with the student population, have experience and knowledge of the certificate programs, and can provide insight, from and administrator’s perspective, on the factors addressing administration support provided to the students.

Interpretative Paradigm:

The nature of this research lends itself to a qualititative project, situated in the interpretative paradigm. Creswell (2007) states interpretive qualitative research recognizes the self-reflective nature of research and emphasizes the role of the researcher as an interpreter of the data and an individual who represents information. Denizen and Lincoln (2005) states that qualitative research involves an interpretive, naturalistic approach to the world, studying things in their natural setting, attempting to make sense of or interpret the phenomena in terms of the meaning people bring to them (p. 3). The interpretive research approach focuses on the self-reflective nature of how the research is conducted. Denizen and Lincoln (2011) states that “all research is interpretive, guided by a set of beliefs and feelings about the world, and how it should be understood and studied, it makes demands on the researcher, including the questions that are asked and the interpretations that are brought to them” (p.13).

By using an interpretative paradigm, the data collected will be from the perspective of the individuals in their natural settings; the researcher is interested in understanding the experience from the perspective of the interviewee, to discover factors that affect their decisions. GED certificate as a route to postsecondary education is an understudied area. Relatively little literature, research data or
information exist on the subject of GED students who continue their postsecondary education and even less on GED students completing and matriculating in career and technical certification programs. First-hand data will provide new insights and knowledge from the experiences of students who have seldom had their stories told, and from certification program executives and administrators whose experience with the students and expertise in certification training programs will enhance the research results.

This qualitative study empowered several students in career and technical certification programs, at different community colleges in the Midwest, to share their story on factors that influenced them to persist to completion. Additional, the researcher collected data from individuals at each institution who have first-hand experience and knowledge of the GED student’s attributes, the certification program structure and components, and the administrative/school support available. Obtaining data from their experiences and perspectives provides an additional voice of knowledge not previously captured and further facilitate the findings from the research.

Data Collection Procedure

The bounded system for this study is community colleges that offer career and technical certificate programs. From within this system, the study collected data from individuals who could contribute insight, from their personal experience, on the subject of factors that influence students with GED certificates to continue their postsecondary education; students attending the college entered with a GED, college administrators of career and technical programs and faculty members who teach the classes. Demographic information and relevant documents were collected to provide additional insight. The methods for selection and protocol followed for the collection of data are described below.

Protocol

According to Yin (2009), by using multiple different sources of information, the researcher can address a broader range of historical and behavioral issues. This leads to “the development of converging lines of inquiry, a process of triangulation and corroboration, emphasized repeatedly, thereby leading the finding or conclusion to be more accurate and convincing” (pg. 115-116). Data collection for this research consisted of demographic surveys, face-to-face interviews, and phone interviews. Additional information was obtained through document reviews, where provided.
Sampling Selection

Maximum variation was employed for the sampling strategy. Selection was made from community colleges in three Midwestern states, and on each campus participants were selected from three different populations.

Site Selection:

Research site colleges were selected through a process of purposeful sampling, based on career and technical training certificate programs recognized by organizations such as the Center for Law & Social Policy Inc. (CLASP), Illinois Community College Board (ICCB), and the Office of Community College Research and Leadership (OCCRL) at the University of Illinois, Urbana.

Purposeful sampling provides a snapshot of the community through which the research will discover, understand, and gain insight into the purpose of the inquiry (Patton, 2002). Creswell (2007) states, “in using purposeful sampling, the inquirer selects individuals and sites for study because they can purposefully inform an understanding of the research problem and central phenomenon in the study” (p.125). This is in alignment with Patton (2002), who defines purposeful sampling as information-rich cases from which one can learn a great deal about issues of central importance to the purpose of the inquiry (p.230). Lastly, Merriam (2009) states “purposeful sampling is based on the assumption that the investigator wants to discover, understand and gain insight and therefore must select a sample from which the most can be learned” (p.77).

In the Midwest, several community college programs have gained recognition for their successful career and technical certification programs by organizations that provide funding, support and resources for career pathway programs. The Center for Law and Social Policy Inc. (CLASP), the Office of Community College Research and Leadership (OCCRL) at the University of Illinois, Champaign/Urbana campus and the Illinois Community College Board (ICCB) are three such organizations that monitor and recognize career technical education programs throughout the country that map education and job opportunities to various industries and occupational businesses. Each of these organizations have published reports on successful career and technical certification programs, in the Midwest, that map education and job opportunities to various industries and occupational businesses. From these reports six community colleges, two in each state, with at least three to five
percent GED student enrollment in their career and technical certification programs, were approached to participate in the study. From the responses, one community college in each state was selected to participate in the study.

CLASP develops and advocates for policies at the federal, state and local levels that improve the lives of low-income individuals. Through their research, analysis and advocacy, they develop and promote new ideas, and directly assist governments and advocates to implement successful strategies that deliver results to individuals across the country. From their April 2011 report, Giving Credit Where Credit Is Due, two Midwestern community colleges were recognized for their innovative programs that allowed the design and delivery of postsecondary education and training to facilitate the awarding of educational credits for noncredit learning through preapproval of an institutional noncredit course. Those two institutions were selected to solicit for participation in this research. One of the identified institution’s program uses a faculty-driven process to determine academic equivalence for industry certifications and apprenticeship programs, and the second institution awards postsecondary education credits to participants in apprenticeship and career pathway bridge programs.

The OCCRL study policies, programs and practices associated with academic and career pathways and programs designed to enhance student transition to college and careers. Once such program is the Shifting Gears project, a five (5) year initiative (2006 – 2011) designed to link education, workforce development and economic development at local, regional and state levels by creating pathways to postsecondary credentials for low-skilled adults. Working in conjunction with the ICCB and OCCRL, the third institution was identified as one of eight state community colleges to receive funding from the Accelerating Opportunities / Jobs for the Future (JFF) initiative, which seeks to enhance the way adult basic education is delivered, putting adult students on track to earn postsecondary credentials through certificate and degree programs.

Participant Selection:

According to Yin (1994), research focused on insight and understanding from the perspective of those being studied offer the greatest promise of making a significant contribution to the practice of education. The participants for this study included GED students, program administrators and program faculty members. As this study seeks to identify motivating factors for GED student continuing and
completing certification training, individuals were selected who could provide insight on the topic based on their personal experiences, as influenced by a different set of circumstances and lifestyles.

Criteria used to select students for this study consist of three to five students from each institution who enrolled with their GED credentials, and are currently enrolled in a certificate program, or a recent graduate, within six months, of a certificate training program. This study did not control for age, or when and where students obtained their GED certificate, only that they entered the certificate program with a GED. In order to maintain student anonymity, participants were informed of the project through a college administrator and advised to respond to the email address provided in an introductory email sent to them.

The college administrator, department chair or equivalent selected has responsibility for oversight of the college's workforce development, technical training or continuing education program. These individuals have a minimum of three years of work experience in their current position or in the training program. They provide knowledge of state workforce development initiatives and programs, relationships and training needs of local businesses, and insight on the institutions strategic plans for future courses and program improvements.

A faculty member who teaches a course in the certification program training course was selected. These individuals should have a minimum of four years of experience in a program or be a faculty member who has recently been promoted to dean or program manager. As a faculty member, they have a unique relationship with the students, in that they serve two roles; one of teacher/instructor for the curriculum, and another of advisor, possible confidant, and sometime friend. They are involved with the students on a daily or weekly basis, and get to know the students on a personal level, thereby able to provide insight into factors that affect students’ continuing their educational endeavors.

Contact protocol:

According to Yin (2009), “protocol is a major way of increasing the reliability of case study research and is intended to guide the investigator in carrying out the data collection from a single case (again, even if the single case is one of several in a multiple-case study)” (p.79). Additional Yin (2009) states that ‘preparing the protocol forces you to anticipate several problems, including the way that the
case study reports are to be complete” (p.82). For this study the following contact protocol was implemented.

- Introductory Email was sent to the Vice Chancellor of Academic Affairs (VC-AA), as identified on the institution’s website. The email identified the researcher as a doctoral student in the National Louis Community College Leadership program, described the research topic, explained the nature of the research proposal, and requested permission to solicit individuals, at that institute, to participate in the study. A copy of the approved Institutional Research Review Board proposal (IRRB) was attached for their review.

- Orientation telephone conference call: upon an response to the introductory email, an orientation telephone call was conducted with each VC-AA and with the Dean of Adult Education to provide, (a) a brief overview of the research project, (b) discussion and answers to any questions, concerns, and issues they may have, (c) identification of potential program administrative and faculty participants, (d) protocol for contacting potential student participants.

- Email contact was made with program administrators and faculty members identified by from the telephone conference call. The email outlined the research topic, explained the nature of the research proposal, and requested their participation in the research project. If the individual agreed to participate, they were asked to complete an online demographic survey of which a web link was provided in the email. Any future correspondence was conducted by email or telephone.

- In order to maintain student anonymity, initial student contact was conducted through each respective school administrator. The researcher composed an email introduced herself as a student in the Community College Doctoral program at National Louis, described the research topic, explained the nature of the research proposal, and requested permission to participate in the study. Students wishing to participate in the
research would reply to the email addresses of the researcher provided in the initial email. Upon receiving an email response from a student, the researcher provided a link to the online survey website for each student to complete a demographic survey, and scheduled the phone interview session. All future correspondence was conducted by email or telephone.

Data Collection

The original intent of the research was to hold focus group interviews with the selected students at each campus and face-to-face interviews with program administrators and faculty members. It became apparent, after two sessions, that the use of focus groups was not convenient for the students; therefore arrangements were made to conduct individual phone interviews with each student. Due to the timing of the response to participate from the third college, on-campus interviews could not be arranged before the end of the semester. Therefore phone interviews for that institution was conducted with the students, program administrator and faculty member.

Demographic surveys

A demographic survey was designed to capture basic contextual information from each participant. From college administrators, program directors and faculty members, the survey (Appendix D), included questions on job title, age group, educational background, current and previous job titles/positions, and work experience in the field of adult education. The information, gathered from an online survey website, allowed the researcher to gain insight into the participants’ background as it related to the interview questions addressing the institutions’ organizational structure, policies and programs and the driving question concerning the program attributes that motivate GED students to complete certificate programs.

From student participants the online demographic survey (Appendix C), requested information pertaining to gender, age group, year they obtained their GED, career/certificate program enrolled, and current employment status. Information gathered from the student population will allow the researcher to gain insight on the relationship of age, work experience and length of time since being in a structured class setting as it relates to influencing factors to complete the certification program.
Interviews

According to Yin (2009), interviews are an essential source of case study evidence, as most case studies are about human behavioral events. The interviewee provides important insight into events, the history of situations, as well as other provide relevant sources of evidence. Yin also states that the strength of using interviews is in providing targeted-focuses directly on the topic as well as providing insightful, perceived casual influences, and explanations. Yin identifies weakness of interviews as being bias due to poorly articulated questions, and not allowing each individual time to express themselves without any questions. In order to compensate for those weaknesses in this study any question where the participant was unsure of the meaning, the researcher would provide an explanation on the reason for the question, or provide possible examples of answers, as given by other participants. To address the weakness of a lack of time to respond, each interview ended with the participant given time to express, in their own words, what they considered to the most influencing factors to the completion of the certificate program.

For this case study, a focused, in-person interview with college administrators and faculty members was arranged at two of the college campuses. This allowed the researcher to see the natural setting of each campus and observe the respondents behavior, opinions and attitudes, in addition to gaining insight into the structure of the certification programs offered. Each interview lasted approximately thirty to forty minutes and was audio recorded. Prior to the interview, the researcher reviewed the content of the consent form with the participant, inquired into any questions participant may have regarding the study or the confidentiality of their identity and school location, and had both parties sign the form. A signed copy of the consent form was provided to any participant that requested one (Appendix A for administrators and faculty, Appendix B for students).

Document review

Documentation obtained from the interviews consist of certification program brochures, class schedules for various campus locations, and a map of one campus student success infrastructure and campus president’s council. These documents may be used to address the attributes that motivate GED students to complete their certificate program.
Data Analysis Procedure

In order to gain useful information from the data collected, it must be analyzed. Merriam (2009) describes data analysis as the process performed to make sense of the data collected; “the process begins by identifying segments in your data set that are responsive to your research questions” (p. 176). During the process, the researcher moves back and forth between “bits of data and abstract concepts, between description and interpretation” (p.176). Creswell (2007) describes data analysis as preparing and organizing the data for analysis, reducing the data into themes by coding, with final representation of the data in figures, tables or discussion. Creswell goes on to state that data collection, analysis and reporting are not individual processes, but interrelated, often occurring simultaneously in the project. This is best illustrated by Creswell’s Data Analysis Spiral, where the research moves in analytical circles starting with data collection and continuing through to data managing, reading and memoing, next describing, classifying and interpreting, and lastly visually representing the data. For this research project the following data analysis procedure was implemented: (a) data managing; transcription of interviews into a word processing software program, for organizing files, data storage and retrieval; (b) reading and memoing to capture key phrases, concepts and field notes; (c) coding and interpreting the data to establish patterns and themes from participants comments and (d) developing comparison tables and charts to provide visual representation of emerging themes.

Data managing

The audio files for each recorded interview were transcribed, into a word processing document, and organized by institution and participant’s name. The printout of each interview was kept in color-coded folders, one for each institution. For security and safety, all audio files were backed on an external hard drive and a flash drive. Upon completion of the project audio files and printouts of the interviews will be maintained in locked cabinet for the duration of five years.

Memoing

Each transcribed and corresponding audio interview was reviewed, multiple times, along with the researcher’s field notes, to identify phases, ideas and key concepts that are consistent among the
interviews. These items were captured in margin notes, to be used in the coding and interpreting of the data.

Coding and Interpreting

The researcher analyzed the content of margin notes of each interview to capture recurring themes and patterns for coding. This allows for the formation of code and category segments to be used in sorting the text. According to Creswell (2007), using code segments can “represent information that researchers expect to find before the study; represent surprising information that researchers did not expect to find; and represent information that is conceptually interesting or unusual to researchers (and potentially participants and audiences)” (p. 153). The code segments represent a specific factor that the students identified as influencing their decision to continue their education after receiving their GED.

Visual Representation

Once the data was sorted into code segments of influencing factors, tables, diagrams and matrixes were created to show inter-relationship of the data between students, faculty and administrators, individually by each group, and across institutions. Additionally, charts and tables will be used to show the relationship of the factors to the theories identified in the conceptual framework, the Social Cognitive Career Theory, Astin’s Theory of Involvement, and Tinto’s Theory on Retention

Validity & Reliability

To assure the quality of the research and data collected for this project, four tests were use; (a) construct validity, (b) internal validity, (c) external validity, and (d) reliability. Yin (2009) has identified the tests used to establish the quality of social research, such as in case studies. The figure below identifies each test, the case study tactic, and the phase of research in which the tactic occurs.
Table 7. Yin Case Study Tactics for Four Design Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Case Study Tactic</th>
<th>Phase of research in which tactic occurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construct validity</td>
<td>• Use multiple sources of evidence</td>
<td>data collection</td>
</tr>
<tr>
<td></td>
<td>• Establish chain of evidence</td>
<td>data collection composition</td>
</tr>
<tr>
<td></td>
<td>• Have key informants review draft case study report</td>
<td></td>
</tr>
<tr>
<td>Internal validity</td>
<td>• Do pattern matching</td>
<td>data analysis</td>
</tr>
<tr>
<td></td>
<td>• Do explanation building</td>
<td>data analysis</td>
</tr>
<tr>
<td></td>
<td>• Address rival explanation</td>
<td>data analysis</td>
</tr>
<tr>
<td></td>
<td>• Use logic models</td>
<td>data analysis</td>
</tr>
<tr>
<td>External validity</td>
<td>• Use theory in single-case studies</td>
<td>research design</td>
</tr>
<tr>
<td></td>
<td>• Use replication logic in multiple-case studies</td>
<td>research design</td>
</tr>
<tr>
<td>Reliability</td>
<td>• Use case study protocol</td>
<td>data collection</td>
</tr>
<tr>
<td></td>
<td>• Develop case study database</td>
<td>data collection</td>
</tr>
</tbody>
</table>


**Construct validity**

To increase the construct validity of the project, data was collected from multiple sources of evidences, from multiple populations, in different locations. The sources included demographic surveys and interviews with students, administrators, and faculty members, and relevant documents pertaining to the certification programs, processes and administration. According to Yin (2009) the use of multiple sources of evidence allows an investigator to address a broader range of historical and behavioral issues, thereby providing the development of ‘converging lines of inquiry’, a process of triangulation and corroboration (p.115).

**Internal validity:**

According to Stake (1995) internal validity can be obtained through data source triangulation and member check. “Data source triangulation is an effort to see if what we are observing and reporting carries the same meaning when found under different circumstances” (p.113). By collecting data from multiple populations in different locations the data analysis will identify themes and patterns that are consistent among GED students persisting to complete a certification program, irrelevant to their physical location or the location of the educational institution.
External validity:

In establishing external validity the researcher is striving to generalize a particular set of results to a broader theory (Yin, 2003). Miles and Huberman (1994) offers relevant queries to ask when testing for external validity/transferability/fitness of which two queries ask: (a) are the characteristics of the original sample of persons, settings, processes (etc.) fully described enough to permit adequate comparisons with other samples; (b) is the sampling theoretically diverse enough to encourage broader applicability; and (c) are the findings congruent with, connected to, or confirmatory of prior theories (p.279)?

For this study the use of multiple case studies across a diverse selection of participants allows for a comparative analysis of similarities and differences on each interview question. In addition a comparative analysis of the study to conceptual framework theories will establish a connection to prior established theories.

Reliability:

Reliability, according to Merriam (2009) while reliability refers to the extent the research findings can be replicated, i.e., if the study is repeated, will it yield the same results a more important question to ask for qualitative research is “whether the results are consistent with the data collected; given the data collected, does the result make sense, are they consistent and dependable (p.221). Strategies used in this study to ensure consistency and reliability of the data are triangulation of the data, and an audit trail.

Limitations

All research is subjected to limitations, either with the design and/or the methodology. They must be minimized through actions or acknowledge within the study. This research was limited by the following factors:

• Timing of the response from one institution to participate in the study, thereby requiring interviews to be conducted via phone instead of at the institution’s campus. Limitations of phone interviews include the absence of visual cues/eye contact, observance of body language and body movements, thereby limiting the researcher’s to observe the participant’s reactions to the questions.
• Inability to hold focus group sessions with student participants at each institution. Due to unforeseen circumstances, phone interviews had to be conducted, thereby eliminating the observance of the synergy and alliance created with a group. To compensate for these limitations, the researcher listened more attentively to participant's responses of interview questions and allowed time at the end of each session for the participant to provide comments on any facet of their educational endeavor not covered.

Researchers Bias

The researcher is an adjunct instructor at a community college as well as a volunteer computer instructor at her place of worship. In her volunteer capacity she has interactions with students working toward their GED certificates, and has a strong conviction to encourage them to continue their education after obtaining their GED. None of the students from either organization participated in the study. While the researcher has experience with such students, she will remain unbiased as possible throughout the study.

Ethical Considerations

Policies and procedures outlined by National Louis University's Institutional Research Review Board (NLU IRRB) were followed to ensure the protection of the participants in this study. This includes the submission of informed consent forms to each participant prior to the scheduled interview session, the explanation of the content of the informed consent form prior to the start of the interview, reassurance of the participant's anonymity with regards to name, school identity, and school location, and that their participation was voluntary and subject to discontinuation at any time. Two of the participating institutions required approval of the study on their campus by their IRRB committee, prior to participation. Documentation was submitted and approval received from both institutions.

Student participants were recruited by administrators and faculty members at each institution. The students responded to the researcher through an electronic-mail invitation, send to identified administrators or faculty members, and mailed to students identified as enrolled at the institution with a GED. All participants were informed of the purpose of the study and received the interview questions prior to the scheduled session. For each student that participated, a monetary gift card ($10) to a local retail store was provided upon completion of the interview, in lieu of the lunch that was to be provided
at each focus group session. Additionally, each transcriber signed a confidentiality form (Appendix H), and released all copies of the transcribed documents to the researcher on a flash memory card.

Chapter Summary

This chapter described the qualitative methodology used to conduct the study of factors that attribute to the matriculation and completion of GED students to career and technical education certification programs in community colleges. This case study was situated in the interpretative paradigm and used a multiple-case study approach for data collection in addition to multiple data collection instruments; demographic surveys, interviews, document review and field notes. Purposeful sampling was achieved through recognized career and technical training certification programs recognized by organizations of higher learning and national workforce initiatives. Data analysis followed Creswell’s (2007) data analysis spiral, and the multiplied sources of data was triangulated to validate the information captured. The issue of validity and reliability were addressed using Yin’s four tactics of construct validity, internal validity, external validity and reliability. Lastly issues of ethical consideration concerning participants’ anonymity, school identity, and research documentation were documented.
Chapter 4: Data Collection

Introduction and Purpose

The purpose of this research was to gather information and data from students on the driving factors that motivated them through their educational journey. By using a qualitative analysis methodology the data would provide an understanding of how the individuals interpret their experiences, construct their worlds, and relate those experiences to their drive for a higher education (Merriam, 2009). Qualitative data collection provides “a source of well grounded, rich descriptions and explanations of processes in identifiable local contexts” (Miles and Huberman, 1994, p.1). As stated by Merriam (2009), it achieves an understanding of how people make sense out of their lives, delineating the process rather than predicting an outcome (p.5).

Data collection elements for this research consist of (a) contact protocol for site and individual participants, (b) online demographic survey, (c) interview questions, and (d) document review. The use of multiple sources for information allows for the triangulation of data. It also allows the researcher to address a broad range of historical and behavioral issues (Yin, 2009). Through the data analysis process a priori themes and reoccurring themes are identified, allowing for the discovery of patterns across the three Midwestern community college institutions.

Contact Protocol

The main purpose of a contact protocol is to provide credibility, dependability, and confirmability to the study’s findings (Yin, 2009). For this study a multi-approach method was implemented regarding the selection of community colleges, school administrators, faculty and staff personnel, and students approached for participation. Purposeful sampling was implemented with regards to the selection of the participating community colleges, and the administrator and student participants.

Site Selection

The career and technical certification programs of several Midwestern community colleges have been recognized by organizations, philanthropy groups, and institutions of higher education as providing new job skills and educational opportunities to individuals most needing of a way to improve their employment outlook. To select the community colleges as a participating research site the
researcher looked to reports and journal articles for specific programs in Illinois, Indiana and Wisconsin. For each of the selected community colleges, college administrators were selected based on their responsibility for oversight of the institutions workforce development and or career and technical education programs. The following tables, 6, 7, and 8, provides the timeline for collecting data from each of the participating institutions as outlined per the contact protocol.

**Illinois Community College**

The Illinois community college was selected for its CTE program, Shifting Gears; Accelerating Opportunities that was implemented through the Jobs for the Future (JFF) organization. The following is a timeline of the contact procedure taken for this research
<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>November, 2012</td>
<td>Introductory email sent to Dean of Adult Education, introducing researcher, explaining the project, and requesting permission to collect data at institution. Informed request must first be submitted for approved by school’s Institutional Research and Review Board (IRRB). Application and concept proposal submitted to institution’s IRRB for approval.</td>
</tr>
<tr>
<td>December, 2012</td>
<td>Approval received from institution’s IRRB to collect data. Conference call with Dean of Adult Education and Senior Director of Adult Education to answer questions concerning the research project and process, identification of administration and faculty participants, and procedure for identifying and contacting student participants. Consent forms and link to online demographic surveys emailed to administrator and faculty participants.</td>
</tr>
<tr>
<td>February, 2013</td>
<td>Introductory email for student participants sent to Dean of Adult Education to be forwarded to students identified as meeting the criteria. Consent forms and link to online survey emailed to student’s responding to request to participate in research.</td>
</tr>
<tr>
<td>March 2013</td>
<td>Follow-up email sent to administrators, faculty and student participants, outlining the agenda for the campus visit for interviews with administrators, and faculty members and focus group session with students.</td>
</tr>
<tr>
<td>April, 2013</td>
<td>Campus visit; interviews with administrators and faculty participants conducted. Informed consent forms signed and copies supplied to participants. No students attended the focus group session. Email follow-up with student participants to schedule a phone interview. One student interviewed. Follow-up with Dean of Adult Education to solicit students from Accelerating Opportunities program who meet the criteria to participate. Additional students identified, and three consented to participate. Email new students consent forms and link to online survey.</td>
</tr>
<tr>
<td>May, 2013</td>
<td>Conducted phone interviews with each of the newly identified student participants.</td>
</tr>
<tr>
<td>August, 2013</td>
<td>Completed the transcription of all interviews</td>
</tr>
</tbody>
</table>

**Indiana Community College**

The Indiana community college (M2) was selected for its successful apprenticeship and career pathway bridge programs, as recognized by CLASP. The following is a timeline of the contact procedure taken for this research.
Table 9. **Timeline of Site and Participant selection for Indiana community college**

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>November, 2012</td>
<td>Introductory email sent to Vice Chancellor, Academic Affairs introducing researcher, explaining the project, and requesting permission to collect data at institution. Response is favorable; arrangements made for a follow-up phone conversation to answer questions concerning the research project and process, identification of administration and faculty participants, and procedure for identifying and contacting student participants. After several emails and phone messages, there is no response. Effort targeted to contacting other community colleges in the state to participate in research.</td>
</tr>
<tr>
<td>February, 2013</td>
<td>Introductory email sent to Vice Chancellor, Academic Affairs (different campus) introducing researcher, explaining the project, and requesting permission to collect data at institution. Informed request must first be submitted for approved by school’s Institutional Research and Review Board (IRRB). Application and concept proposal submitted to institution’s IRRB for approval.</td>
</tr>
<tr>
<td>April, 2013</td>
<td>Approval received from institution’s IRRB to collect data. Conference call with Vice Chancellor, Academic Affairs to answer questions concerning the research project and process, identification of administration and faculty participants, and procedure for identifying and contacting student participants. Conference call with Dean/Professor Liberal/Arts, administrator of Academic Skills, to introduce the researcher, explaining the project and timelines, and answer any questions concerning the project, process. Researcher requested the names of faculty and administrators to participate and the procedure for contacting student participants. Introductory email for students sent to Administrator of Academic Skills to be forwarded to students identified as meeting the criteria. Consent forms and link to online survey emailed to student’s responding to request to participate in research.</td>
</tr>
<tr>
<td>May, 2013</td>
<td>Due to the timing of the request being at the end of the semester, phone interviews were arranged to take place in June.</td>
</tr>
<tr>
<td>June, 2013</td>
<td>Conducted phone interviews with administrator, faculty members, and student participants. Signed informed consent forms received and copies mailed back to participants.</td>
</tr>
<tr>
<td>August, 2013</td>
<td>Completed the transcription of all interviews</td>
</tr>
</tbody>
</table>

**Wisconsin Community College**

The Wisconsin community college was selected for its recognition by CLASP as providing new innovative certification programs that map education to local job opportunities in various industries and occupational businesses. The following is a timeline of the contact procedure taken for this research
Table 10. *Timeline of Site and Participant selection for Wisconsin community college*

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>November, 2012</td>
<td>Introductory email sent to Chief Academic Officer (CAO), introducing researcher, explaining the project, and requesting permission to collect data at institution. Response is favorable; arrangements made for a follow-up phone conversation to answer questions concerning the research project and process, identification of administration and faculty participants, and procedure for identifying and contacting student participants.</td>
</tr>
<tr>
<td>December, 2012</td>
<td>Conference call with CAO; faculty members and students identified. Arrangements made for future correspondence with all parties after beginning of spring semester.</td>
</tr>
<tr>
<td>January, 2013</td>
<td>Email sent to Dean of Academic Support and a faculty member identified by CAO, introducing the researcher, and explaining the project. Requested date and time for phone conference call to answer any questions and discuss next steps.</td>
</tr>
<tr>
<td></td>
<td>Introductory email sent to Dean of Academic Support for forwarding to students identified as meeting the criteria for the research. Interested students informed to response by replying directly to the email address provided by the researcher.</td>
</tr>
<tr>
<td>February, 2013</td>
<td>Student responses received; informed consent forms and links to demographic survey emailed to responders. Arrangements made for March on-campus visit for interviews of administrators and faculty members, and focus group session with students.</td>
</tr>
<tr>
<td>March, 2013</td>
<td>Campus visit; interviews with administrators and faculty participants conducted and focus group session with students. Signed informed consent forms received; copies mailed to participants.</td>
</tr>
<tr>
<td></td>
<td>Due to malfunction of recording equipment, focus group session with students was not recorded. Contact students, via email, to arrange a phone interview at time of their convenience.</td>
</tr>
<tr>
<td>May, 2013</td>
<td>Concluded all phone interviews with students.</td>
</tr>
<tr>
<td>August, 2013</td>
<td>Completed the transcription of all interviews.</td>
</tr>
</tbody>
</table>

**Participant Selection Profile**

Faculty and staff members were selected based on their involvement with teaching certification training courses, or their relationship as an advisor or transition coordinator to the students. Student participants were informed of the project through a college administrator or faculty member who had consented to participate in the research. In order maintain student anonymity the original email request for student participation was sent to the administrator of Adult Education
programs at each institution, to be forwarded to the appropriate resource personnel for emailing to the student population meeting the participant criteria.

The criteria for selection consisted of students with their GED credentials, who were enrolled in a certification program, or a recent graduate, within six months, of a certification training program. This criterion had to be modified to include students with their GED certification, or currently working towards their GED, enrolled in a certification program, and within six months of completing both. The modification was required due to a lack of available data at each institution regarding students’ enrollment with a GED certification. None of the institutions were able to identify students enrolling with or without a GED certificate. Modifying the criteria provided the administrator and faculty members with an opportunity to identify specific students who they felt would be able to provide meaningful data.

The online survey was implemented using the SURVS website to collect demographic information on the participants. For administrators, faculty and staff members, the survey (Appendix D) captured information pertaining to their current job title and responsibilities, work experience in the field of adult education, and educational background. For student participants the survey (Appendix C) captured information pertaining to their age group, GED certification, the career/certificate program enrolled, and current employment status.

Research Findings

Illinois Community College

Student Survey Demographics

The following table, Table 11, displays the demographic information of the student participants from the Illinois community college. There are three individuals, aged 30-39, 2 females and one male. All three individuals are of Hispanic descent. The two female students received their GED certificate in 1997 and 2013, and the male student received his GED 2011. The female participants are enrolled in the dental hygienist and paralegal certificate program, and the male student is in the welding program. None of the students are employed at the time of the interviews. Table 12 provides a summary of their response to the interview questions.
Table 11. Illinois Student Demographic Survey results

<table>
<thead>
<tr>
<th># Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Age Group</td>
<td>30 – 39</td>
<td>30 – 39</td>
<td>30 - 39</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Hispanic</td>
<td>Hispanic</td>
<td>Hispanic</td>
</tr>
<tr>
<td>GED Awarded</td>
<td>1997</td>
<td>2013</td>
<td>2011</td>
</tr>
<tr>
<td>Certificate Program currently enrolled</td>
<td>Paralegal</td>
<td>Dental Hygienist</td>
<td>Welding</td>
</tr>
<tr>
<td>Currently employed</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Student Interview Responses:

Table 12. Illinois Student Response to Interview Questions

**Question 1: What made you decide to continue your education after receiving your GED certificate?**

<table>
<thead>
<tr>
<th>Student</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>Information received from program Coordinator in a classroom visit.</td>
</tr>
<tr>
<td>Student 2</td>
<td>provide a stable home environment</td>
</tr>
<tr>
<td>Student 3</td>
<td>improve job skills and knowledge</td>
</tr>
</tbody>
</table>

**Question 2: What factors influenced your decision most**

<table>
<thead>
<tr>
<th>Student</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>the program coordinator explanation of the program and opportunities</td>
</tr>
<tr>
<td>Student 2</td>
<td>wanting a better home life and feeling of accomplishment</td>
</tr>
<tr>
<td>Student 3</td>
<td>make more money for family</td>
</tr>
</tbody>
</table>

**Question 3: Has anyone in your family attended or graduated from a postsecondary institution? If yes, please explain.**

<table>
<thead>
<tr>
<th>Student</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>No</td>
</tr>
<tr>
<td>Student 2</td>
<td>Parents attempted, but didn't finish</td>
</tr>
<tr>
<td>Student 3</td>
<td>Older brother in school to become a lawyer, younger sister is pursuing a nursing career</td>
</tr>
</tbody>
</table>

**Question 4: Can you describe how you feel/felt being a ‘college student’?**

<table>
<thead>
<tr>
<th>Student</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>overwhelmed in the beginning, but comfortable after a few weeks</td>
</tr>
<tr>
<td>Student 2</td>
<td>felt old around the other students, but felt good for accomplishing something</td>
</tr>
<tr>
<td>Student 3</td>
<td>great feeling</td>
</tr>
</tbody>
</table>
**Question 5: What are your personal goals: short-term and long-term?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>short-term show children accomplishment; long-term dental assistant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>just want to finish something</td>
</tr>
<tr>
<td>Student 3</td>
<td>short-term to start another career; long-term to save money for my own business</td>
</tr>
</tbody>
</table>

**Question 6: Why is this program certificate important to you?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>I can now say I’ve achieved something, at my age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Through a lot of hardships I have accomplished something</td>
</tr>
<tr>
<td>Student 3</td>
<td>To get a better job to help the family</td>
</tr>
</tbody>
</table>

**Question 7: Do you plan to continue your postsecondary education? If so, in what field or area of study?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Continue in field of Dental Hygienist to become certified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Eventually in legal field for animal rights</td>
</tr>
<tr>
<td>Student 3</td>
<td>In HVAC</td>
</tr>
</tbody>
</table>

**Question 8: What influenced your decision the most to pursue this specific certificate program?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>the program existed that helped; school provided support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>myself – wanting to be a paralegal</td>
</tr>
<tr>
<td>Student 3</td>
<td>wanted to go back to school for a career</td>
</tr>
</tbody>
</table>

**Question 9: What outside factors influenced your decision to complete the career certification program?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Other friends who went back and were happy to accomplish something</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Grandmother helped with children, Fiancé encouragement</td>
</tr>
<tr>
<td>Student 3</td>
<td>family and job opportunities</td>
</tr>
</tbody>
</table>

**Question 10: What potential employment opportunities will completion of this certificate provide?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Part-time internships as well as part-time employment in dental office to work on improving skills and gaining experience while still in school.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Will be moving out of state; not looking for employment at the moment.</td>
</tr>
<tr>
<td>Student 3</td>
<td>job opportunities in the field close to home</td>
</tr>
</tbody>
</table>
Administrator Survey Demographics

The following table, Table 13, displays the demographic information from the administrator participants at the Illinois College. There are two female participants, the Dean of Adult Education (Administrator 1), and the Senior Director for Adult Basic and Secondary Education (Administrator 2). The Dean of Adult Education is in the 40 – 49 age group, has served 5 years in her current position and previously held the position of Associate Director for Illinois Community College Board for 6 years. The Senior Director of Adult Basic and Secondary Education is in the 40 – 49 age group, has served for 3 years in her current position, and previously held the position of secondary education supervisor. Neither participant provided information on their highest education level. Table 14 provides a summary of their response to the interview questions.

Table 13.  Illinois Administrator Demographic Survey results

<table>
<thead>
<tr>
<th>Gender</th>
<th>Female</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Group</td>
<td>40 - 49</td>
<td>40 – 49</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Not answered</td>
<td>Not answered</td>
</tr>
<tr>
<td>Current Position</td>
<td>Dean Adult Ed.</td>
<td>Senior Director ABS</td>
</tr>
<tr>
<td># of Years</td>
<td>5+</td>
<td>3</td>
</tr>
<tr>
<td>Previous Position</td>
<td>Associate Director</td>
<td>ABE/ASE Supervisor</td>
</tr>
<tr>
<td># of Years</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>3.5%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

Administrator Interview Response

Table 14.  Illinois Administrator Response to Interview Questions

Question 1: Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve, the Dream, Shifting Gears, I-Best, etc.? If yes, for how long?

<table>
<thead>
<tr>
<th>Administrator 1</th>
<th>We are an Achieving the Dream college and we are included in the Shifting Gears College Accelerating Opportunity Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator 2</td>
<td>A part of the Shifting Gears program, and model after I-BEST</td>
</tr>
</tbody>
</table>
**Question 2:** In what ways do the career and technical certification programs have local business sponsors or business support (such as potential employment opportunities, internships, etc.)?

| Administrator 1 | Not the best person to answer; someone in Career Services area is working on developing internships model. We have advisory councils that have business inclusion and we have bridge programs |
| Administrator 2 | Not really able to answer; there are individuals in other parts of the college working in that area. |

**Question 3:** Are you aware of how, or in what ways, GED student are advised of career and technical certification programs at your college? If yes, please explain.

| Administrator 1 | All GED students meet with the Transitions Coordinator who is a single point person to help answer their questions and work with them to get all the information needed for the various programs |
| Administrator 2 | When student enter to earn their GED here, they meet with the transition coordinator who informs them of the program |

**Question 4:** What do you believe are the influencing features of the career certificate programs to GED student?

| Administrator 1 | The short-term commitment of the programs, mostly under one year, and the support of faculty members who are with them the entire year, so that the students are in a cohort environment with the same peers and faculty support |
| Administrator 2 | Programs are short-term and completed quicker, within one year. |

**Question 5:** Are you aware of any process or procedures that track GED student progress and success at your college? If yes, please explain.

| Administrator 1 | This is the first year we’re working with institutional research to track Adult Education. It’s very limited and we’re working through the issues. |
| Administrator 2 | For students who are on Scholarship the financial aid person does track their progress. Other than that, I don’t know of any. |

**Question 6:** Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education degree programs (credit)? If yes, please explain.

| Administrator 1 | Adult Ed is not a part of Continuing Ed, and not non-credited. We are credit but not transferrable college credits. |
| Administrator 2 | Not a part of Continuing Ed, students earn credits towards their certificates |

**Question 7:** What assistance/support service does your college provided to GED student? Please check all that apply: ___ Admissions, ___ Advising / counseling / mentoring, ___ Orientation, ___ Other (please list)

| Administrator 1 | 3 credit tuition waiver for GED graduates, and transportation assistance for all GED students. Our transition coordinator provides student support in a lot of different areas to assist the students |
| Administrator 2 | Our Transition Coordinator handles this with the GED student in any area needed |
### Question 8: What other support issues, if any, are identified with increasing retention of GED student at your college?

<table>
<thead>
<tr>
<th>Administrator 1</th>
<th>Scheduling of classes in terms of students working lives and commitments, flexibility of transfer classes when students get a job, NRS performance issues in terms of retaining GED students,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator 2</td>
<td>Financial support, transportation and child care. Also students from other countries having cultural issues with education over family financial support, and younger students not valuing education</td>
</tr>
</tbody>
</table>

### Question 9: What elements are in place, at your college, to address GED students' perceived barriers to advancing their education?

<table>
<thead>
<tr>
<th>Administrator 1</th>
<th>Personalized assistance, academic support, cohort environment with dedicated faculty members, and block scheduling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator 2</td>
<td>The use of learning communities, and the models of the programs in use. Also to enroll, a high school diploma or GED is not needed, but students can work in a certificate program while earning their GED</td>
</tr>
</tbody>
</table>

### Question 10: At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.

<table>
<thead>
<tr>
<th>Administrator 1</th>
<th>The certificate programs have pathways to stackable credentials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator 2</td>
<td>Each certificate program determines the pathway to further degrees</td>
</tr>
</tbody>
</table>

### Question 11: To what extent does the organizational structure of the career and technical certification programs contribute to matriculation, at your college? Please explain.

<table>
<thead>
<tr>
<th>Administrator 1</th>
<th>More collaboration among the various workforce programs under the a special workforce transition department, offering bridge programs to various industrial programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator 2</td>
<td>Attempting to run courses at a fairly regular time consistently each semester</td>
</tr>
</tbody>
</table>

### Question 12: Are there institutional or system reports for obtaining program feedback, sharing lessons and identifying support needs, at your college? If yes, please explain.

<table>
<thead>
<tr>
<th>Administrator 1</th>
<th>Newly implemented college-wide student success infrastructure, made up of taskforces from each area that report on projects and other events in each area; provides feedback on what's happening all over the school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator 2</td>
<td>There may be something done within other groups and among instructors but nothing on an institutional level</td>
</tr>
</tbody>
</table>

### Question 13: How are lessons learned regarding or relevant to GED students in career and technical certification programs, documented and implemented, at your college?

<table>
<thead>
<tr>
<th>Administrator 1</th>
<th>Starting to track work done by Transition Coordinator for; having students from the program speak at various functions, getting faculty and others involved outside of our own box, bring individuals from other parts of the school in to talk to our students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator 2</td>
<td>While there are meetings among the individuals running the various programs there is nothing officially coming out as documentation on a regular basis</td>
</tr>
</tbody>
</table>
Faculty Survey Demographics

The following table, Table 15, displays the demographic information of the two female faculty participants from the Illinois community college consist. Faculty member #1 is an adjunct faculty member in the Adult Education department, and serves as the support faculty member for students in the welding and manufacturing program. Faculty member #2 is an Associate Professor of English under the English as a Second Language department and serves as the support faculty member for students in the dental program. Faculty member 2 did not complete the demographic survey. Table 16 provides a summary of their response to the interview questions.

Table 15. Illinois Faculty Demographic Survey results

<table>
<thead>
<tr>
<th># Participants</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Females</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>1: 30 – 39</td>
<td></td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Masters</td>
<td></td>
</tr>
<tr>
<td>Current Position</td>
<td>Adjunct faculty</td>
<td>Asst. Professor - ESL</td>
</tr>
<tr>
<td># of Years</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Previous Position</td>
<td>Middle School Teacher</td>
<td></td>
</tr>
<tr>
<td># of Years</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>not known</td>
<td></td>
</tr>
</tbody>
</table>

Faculty Interview Responses

Table 16. Illinois Faculty Response to Interview Questions

**Question 1:** Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve, the Dream, Shifting Gears, I-Best, etc.? If yes, for how long?

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty 1</td>
<td>Similar to I-Best, transitioning to Accelerating Opportunities</td>
</tr>
<tr>
<td>Faculty 2</td>
<td>Shifting Gears; program is based on the I-Best Model</td>
</tr>
</tbody>
</table>
### Question 2: In what ways do the career and technical certification programs have local business sponsors or business support (such as potential employment opportunities, internships, etc.)?

| Faculty 1 | Instructors (welding) have good working relationship with local companies; they donate material, request students able to work on/in specific areas. Have held workshops and symposiums with local welding businesses, Better Business Bureau, instructors and students |
| Faculty 2 | In the dental program there are clinic that the students get to come in and assist the dentist, a way of learning and gaining experience with the equipment and laboratories. For the other programs someone else coordinator and works on that |

### Question 3: Are you aware of how, or in what ways, GED student are advised of career and technical certification programs at your college? If yes, please explain.

| Faculty 1 | Wall of brochures for every program that’s available and offered. Instructors will work with students when an interest is expressed. GED and ESL students work with transition coordinator on everything from financial aid to all the programs available |
| Faculty 2 | informally by teachers, Transition Specialist talks to students about different programs and careers |

### Question 4: What do you believe are the influencing features of the career certificate programs to GED student?

| Faculty 1 | They offer something they can do that they’re interested in. |
| Faculty 2 | They get a certificate when finish one program and are able to go to the next level; the support classes where they have extra exercises and review of the material and get more help with class work from the support instructor |

### Question 5: Are you aware of any process or procedures that track GED student progress and success at your college? If yes, please explain.

| Faculty 1 | Track their progress by standardized test they have to take to prove they are learning. Once they leave the program there is no tracking their progress |
| Faculty 2 | Some things may be tracked by Transition Coordinator but nothing official |

### Question 6: Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education degree programs (credit)? If yes, please explain.

| Faculty 1 | Have Transition Coordinator to help figure out what they need and help them do it |
| Faculty 2 | We’re totally separate from continuing education. |
**Question 7:** What assistance/support service does your college provided to GED student? Please check all that apply: ___ Admissions, ___ Advising / counseling / mentoring, ___ Orientation, ___ Other (please list)

| Faculty 1 | The Transition Coordinator works with them in these areas. We also have Work Keys that students can take here on campus |
| Faculty 2 | The Transition Coordinator has taken on that responsibility and it has been a key position and resource to help the program run smoothly. As teachers we can’t keep up with all that stuff |

**Question 8:** What other support issues, if any, are identified with increasing retention of GED student at your college?

| Faculty 1 | Keep motivating them to continue and not quit because of home life/job issues |
| Faculty 2 | Navigating through registration; helping student with computer technology, the website and the school learning management system. Additionally childcare and transportation are sometime issues. Family pressures to work to help out with family finances, and cultural issues with education and time commitment involved |

**Question 9:** What elements are in place, at your college, to address GED students’ perceived barriers to advancing their education?

| Faculty 1 | Not sure how to answer, program has been in a separate building for a couple of years, so more like a little community outreach program than part of the college. Main building has tutoring centers and writing centers but most students use tutoring centers in their area. Need to get to students to make sure they have skills needed to before signing up for college courses, which incurs tuition cost |
| Faculty 2 | Individual teachers encouragement within the program; helping them understand a deficiency is not because of a lack of intelligence but a lack of experience; supporting them to gain more experience |

**Question 10:** At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.

| Faculty 1 | Outside of the Compass test none. Certain certificate programs may have a pre-assessment exam, but not all |
| Faculty 2 | More to the next level of the program they’re in; after completing the first full term, they have a certificate for the basic level and can continue to the next level |
Question 11: To what extent does the organizational structure of the career and technical certification programs contribute to matriculation, at your college? Please explain

| Faculty 1 | Once the students come out of the program they’re on their own as regular college students. There are advisors and others to help but the cohort structure and support goes away |
| Faculty 2 | The programs offer a series of certificates and builds rather than having to do the whole nine-yard before you get anything. The program fits into the adult |

Question 12: Are there institutional or system reports for obtaining program feedback, sharing lessons and identifying support needs, at your college? If yes, please explain.

| Faculty 1 | Inside of Adult Education there is a round table session once a semester to share lessons learned. Adult Ed administration keeps track of what level the students are at, what level they will move onto, and how they did on standardized test |
| Faculty 2 | Not sure; program instructors develop curriculum/lesson plans for whoever teaches the class; we’re just getting into institutional reports, we have some informal tracking we keep ourselves |

Question 13: How are lessons learned regarding or relevant to GED students in career and technical certification programs, documented and implemented, at your college?

| Faculty 1 | It’s more specific inside the programs and not so much the college; we know the success stories within our area but there is no marketing plan to push that out. The college is starting to push for more of that with a marketing campaign to highlight all successes, not just GED and ESL |
| Faculty 2 | Not aware of any and didn’t know how anything would get out to the college |

Indiana Community College

Student Survey Demographics

Table 17 below, displays the demographic information of the three student participants from the Indiana community college. Two participants are in the 40 – 49 age group (one female and one male), and one female individual is under the age of 30. The female participant, 40–49 years of age, is white, non-Hispanic, earned her GED certificate in 1991, enrolled in the Applied Science program and is unemployed at the time of the interview. The male participant is black, non-Hispanic, earned his GED certificate in 2012, enrolled in the Culinary Arts program and is unemployed at the time of the interview. The youngest female, age under 30, is a Black, non-Hispanic, who received her GED in 2013 along with her certificate as a Dentist Hygienist. She also is unemployed. Table 18 provides a summary of their response to the interview questions.
Table 17. Indiana Student Demographic Survey results

<table>
<thead>
<tr>
<th># Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Age Group</td>
<td>40 – 49</td>
<td>under 30</td>
<td>40 - 49</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>White – non-Hispanic</td>
<td>Black – non-Hispanic</td>
<td>Black, non-Hispanic</td>
</tr>
<tr>
<td>GED Awarded</td>
<td>1991</td>
<td>2013</td>
<td>2012</td>
</tr>
<tr>
<td>Certificate Program currently enrolled</td>
<td>Applied Science</td>
<td>Dentist Hygienist</td>
<td>Culinary Arts</td>
</tr>
<tr>
<td>Currently employed</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Student Interview Responses

Table 18. Indiana Student Response to Interview Questions

Question 1: What made you decide to continue your education after receiving your GED certificate?

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Providing a good example for kids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>To better myself</td>
</tr>
<tr>
<td>Student 3</td>
<td>First step in a 5 year plan to complete education</td>
</tr>
</tbody>
</table>

Question 2: What factors influenced your decision most

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Parents – both were big on getting an education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Determination to prove I’m not a nobody</td>
</tr>
<tr>
<td>Student 3</td>
<td>Tired of $7 and $8 jobs</td>
</tr>
</tbody>
</table>

Question 3: Has anyone in your family attended or graduated from a postsecondary institution? If yes, please explain.

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Both parents have college degree; brother went to college also</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Daughter currently attending community college</td>
</tr>
<tr>
<td>Student 3</td>
<td>No; the first in the family to get GED.</td>
</tr>
</tbody>
</table>
Question 4: Can you describe how you feel/felt being a ‘college student’?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>I look at it as ‘getting down to business’</td>
</tr>
<tr>
<td>Student 2</td>
<td>Like a teenager; very proud of myself</td>
</tr>
<tr>
<td>Student 3</td>
<td>overwhelmed and nervous at first; best experience of my life</td>
</tr>
</tbody>
</table>

Question 5: What are your personal goals: short-term and long-term?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>short-term, get a job; long term to be certified in dental hygienist field</td>
</tr>
<tr>
<td>Student 2</td>
<td>short-term, want a home, a place of my own to feel secure; long-term want to have a studio to display my photography</td>
</tr>
<tr>
<td>Student 3</td>
<td>short-term, get culinary degree; long-term open a restaurant and put people to work</td>
</tr>
</tbody>
</table>

Question 6: Why is this program certificate important to you?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>It’s a way of life, everyone needs education in their life</td>
</tr>
<tr>
<td>Student 2</td>
<td>start of my future, fulfilling of my dreams and future</td>
</tr>
<tr>
<td>Student 3</td>
<td>the achievement of a goal</td>
</tr>
</tbody>
</table>

Question 7: Do you plan to continue your postsecondary education? If so, in what field or area of study?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>yes – in a medical field, surgical tech</td>
</tr>
<tr>
<td>Student 2</td>
<td>yes – AA in photography and business</td>
</tr>
<tr>
<td>Student 3</td>
<td>yes, in business and management</td>
</tr>
</tbody>
</table>

Question 8: What influenced your decision the most to pursue this specific certificate program?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>It’s the one thing I would like to do</td>
</tr>
<tr>
<td>Student 2</td>
<td>love of outdoors and photography</td>
</tr>
<tr>
<td>Student 3</td>
<td>passion for cooking; can’t remember a time not cooking</td>
</tr>
</tbody>
</table>

Question 9: What outside factors influenced your decision to complete the career certification program?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>The structure of the classes, they don’t play here, get your GED and get out</td>
</tr>
<tr>
<td>Student 2</td>
<td>Encouragement from family and friends, support from the school</td>
</tr>
<tr>
<td>Student 3</td>
<td>Support system; family, friends, church community</td>
</tr>
</tbody>
</table>
Question 10: What potential employment opportunities will completion of this certificate provide?

<table>
<thead>
<tr>
<th>Student 1</th>
<th>There is a wide range of opportunities, from working in small dentist offices or private practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Would like to work in retail, eventually having own business</td>
</tr>
<tr>
<td>Student 3</td>
<td>Internship in the last semester</td>
</tr>
</tbody>
</table>

Administrator Survey Demographics

Table 19 displays the demographic information of the administrator participant from the Indiana College (M2). The female participant is the Dean of Academic Skills, in the 50-59 years of age. She has been in her current position for two years, and her previous position was that of Department Chair of Academic Skills, a position she held for 20 years. Her highest educational level is a Master’s degree. Table 20 provides a summary of her response to the interview questions.

Table 19. Indiana Administrator Demographic Survey Results

<table>
<thead>
<tr>
<th># Participants</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>50 – 59</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Masters</td>
</tr>
<tr>
<td>Current Position</td>
<td>Dean Academic Skills</td>
</tr>
<tr>
<td># of Years</td>
<td>2</td>
</tr>
<tr>
<td>Previous Position</td>
<td>Department Chair – Academic Skills</td>
</tr>
<tr>
<td># of Years</td>
<td>20</td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>unknown</td>
</tr>
</tbody>
</table>

Administrator Interview Responses

Table 20. Indiana Administrator Response to Interview Questions

Question 1: Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve, the Dream, Shifting Gears, I-Best, etc.? If yes, for how long?

Affiliated with Achieve the Dream since 2009
Question 2: In what ways do the career and technical certification programs have local business sponsors or business support (such as potential employment opportunities, internships, etc.)?

All C & T programs have advisory boards made up of individuals who are a part of the local business community. Several individuals on the advisory boards also teach classes or will review student portfolio presentations for their capstone and grade presentations along with the instructor. Several businesses offer students internships and hire students and graduates. Have input into course content that addresses a regional needs.

Question 3: Are you aware of how, or in what ways, GED student are advised of career and technical certification programs at your college? If yes, please explain.

GED students are treated no different than a regular student; they go through the same process as far as enrolling in the school. There are no GED classes taught on the campus, al the student wanting a GED work the a local school/corporation that provide GED training and articulate back to the college.

Question 4: What do you believe are the influencing features of the career certificate programs to GED student?

Our Ivy Institute program which is in essence is a short-term, one year program in different industries/businesses. Students are here 5 days a week from 8-3 and they get everything they need in one calendar year. Also there are classes with built-in industry certification within the class that are recognized and valued by employers.

Question 5: Are you aware of any process or procedures that track GED student progress and success at your college? If yes, please explain.

Because of the affiliation with Achieve the Dream, the progress of all students is tracked when then enter the school as new students, and are tracked out for 5 years of 150% timeframe.

Question 6: Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education degree programs (credit)? If yes, please explain.

Have remedial classes and developmental classes; based on scored on placement assessments. Developmental and remedial classes are non-credit and are not transferrable. Outside local school/corporations offers GED Plus classes on campus which provides additional workshops for anyone wanting additional brush-up on math, or higher math level before taking the college placement assessment.

Question 7: What assistance/support service does your college provided to GED student? Please check all that apply: ___ Admissions, ___ Advising / counseling / mentoring, ___ Orientation, ___ Other (please list)

Not treated differently than any other student; there is admission support, advising support and orientation support (no counseling available at the school). All students are required to take one at least one student success class.
<table>
<thead>
<tr>
<th>Question 8: What other support issues, if any, are identified with increasing retention of GED student at your college?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Again this is available for all students, GED students are not targeted out; there is tutoring support and based on course, there are some with supplemental instruction programs available. Within the last few years, making an effort to provide more student life kind of things so the students feel more connected to the college for support.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 9: What elements are in place, at your college, to address GED students' perceived barriers to advancing their education?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depends of the situation: academically there are academic resources in place. For non-academic issues we use the local 211 resources to get the students help in any of those areas where resources are available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 10: At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have built the curriculum to include stair-step provision. Depending on the career area the student is interested in, they can come in and get a career development certificate with approximately 12 credit hours, and build on that to get a technical certificate with one year, and build on that to get an associates’ degree and continue on to a bachelor’s degree at another institute. The highest degree we offer is an associates’.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 11: To what extent does the organizational structure of the career and technical certification programs contribute to matriculation, at your college? Please explain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>We have a standard 16 week semester, but we also try to offer shorter term classes of 4 weeks and 8 weeks; so a student can do some 4 or 8 week classes in addition to or instead of the regular 16 week term. Also a lot of online classes available for students interested in that. Making sure that faculty and others stay up to date on the mechanisms students use to communicate, not all students use or are aware of school email accounts.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 12: Are there institutional or system reports for obtaining program feedback, sharing lessons and identifying support needs, at your college? If yes, please explain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The one place we’re not as good as we should be, still learning how to analysis all the data and determine what it means. One are of struggle is trying to get the student voice included by the use of focus groups and other things. We can look to the hard data for specifics on number of students returning, left, grades and such; but hard data does not address the lessons learned on why things are the way they are; and for that you need student input.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 13: How are lessons learned regarding or relevant to GED students in career and technical certification programs, documented and implemented, at your college?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Except for Achieve the Dream, there isn’t a lot of documentation. Recently appointed an Institutional Research person whose main charge is to determine what data is needed to address the questions of support and other things of that nature. Will be done collectively for all students, not just GED, Starting to figure that out, but have a ways to go before we get there.</td>
</tr>
</tbody>
</table>
Faculty Survey Results

Table 21 displays the demographic information for the faculty member interviewed from the Indiana community college. The female participant is 60 years or older. She held a faculty position for 20 years. Her previous position was that of substitute teacher for 6 years. She lists her highest education level as Master’s. Table 22 provides a summary of the response to the interview questions.

Table 21. Indiana Faculty Demographic Survey Results

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td># Participants</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>50 – 59</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Masters</td>
</tr>
<tr>
<td>Current Position</td>
<td>Dean Academic Skills</td>
</tr>
<tr>
<td># of Years</td>
<td>2</td>
</tr>
<tr>
<td>Previous Position</td>
<td>Department Chair – Academic Skills</td>
</tr>
<tr>
<td># of Years</td>
<td>20</td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>unknown</td>
</tr>
</tbody>
</table>

Faculty Interview Responses

Table 22. Indiana Faculty Responses to Interview Questions

Question 1: Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve, the Dream, Shifting Gears, I-Best, etc.? If yes, for how long?

Affiliated with Achieving the Dream for about 3 years; last couple of years associated with Complete College America

Question 2: In what ways do the career and technical certification programs have local business sponsors or business support (such as potential employment opportunities, internships, etc.)?

For our region, most career certification has advisory boards made up of local businesses. They provide input into what the students’ needs to know, what the employers are looking for and they play a fairly large part in what the instructors are presenting as key elements to be successful in whatever career they choose.
### Question 3: Are you aware of how, or in what ways, GED student are advised of career and technical certification programs at your college? If yes, please explain.

All students, not just GED, have advisor in whatever career they head towards. The advisors inform them of the courses they need to take and the order to take them in. Most advisors either teach the course or are familiar with the course and advise the students of pitfalls or difficulties they may encounter with a specific class. Students who are still working on GED can dual enroll, for one or two semesters.

### Question 4: What do you believe are the influencing features of the career certificate programs to GED student?

Students want to do something to help others out of their own personal experiences; they want to become child advocates, parole officers and go into human services all to help make a difference.

### Question 5: Are you aware of any process or procedures that track GED student progress and success at your college? If yes, please explain.

Not on an institutional level; had a program that allowed instructors to track students’ progress and set up flags if fallen below a certain grade in a class. This would allow for contact with an advisor to discuss possible solutions. Usually the students just quit attending class and advisors are unable to contact.

### Question 6: Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education degree programs (credit)? If yes, please explain.

The school has a college success orientation course for freshman that goes through what students need to do to be successful in college; look at your life, what do you do, how do you need to change to be successful/ or do you need to change to be successful in college. Another thing is combining a zero level class with a 100 level class in math and English so that students take the classes back to back, usually with the same instructor and they get assistance with any difficulties or problems in the assignments.

### Question 7: What assistance/support service does your college provided to GED student? Please check all that apply: ___ Admissions, ___ Advising / counseling / mentoring, ___ Orientation, ___ Other (please list)

Again the orientation and their advisors are a part of admissions. With the advisor being in the field the student has chosen it helps with a lot of the issues students have.

### Question 8: What other support issues, if any, are identified with increasing retention of GED student at your college?

Other than we’re using Starfish which is advising where they get kudos for things done well, or I see we’re having a problem, how can we fix it, come in and let’s talk.

### Question 9: What elements are in place, at your college, to address GED students’ perceived barriers to advancing their education?

We’re piloting a system called PERTS which is Carol Dweck Mindset philosophy on student beliefs and how those beliefs really affect what they do. It a program that looks at how to you change the students perception of themselves and their abilities.
Question 10: At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.

We try to make all our certification programs align and have a beginning and an end so that we can get a technical certificate and then decide to go on to a Machine tool certification, and with a few more classes be able to get an associates’ degree. The building process has it so that with a technical certificate, you’re more than halfway to and associates’ degree.

Question 11: To what extent does the organizational structure of the career and technical certification programs contribute to matriculation, at your college? Please explain.

Back to the advisory board, they have work with curriculum development to make sure what the students learn is relevant to the current job market.

A big complaint I hear from many students, especially single mothers, is the issue of childcare. If we could have some sort of childcare would make a huge difference for many students.

Question 12: Are there institutional or system reports for obtaining program feedback, sharing lessons and identifying support needs, at your college? If yes, please explain.

On this campus we have started a lunch and learn, for faculty to come and share how they use collaborative learning tools into their classes and variety of situations. We’re also looking at an international push for our students to think or consider traveling abroad or within the country to provide a service to the community. So here on our campus there is a lot of feedback between the different departments on how can you incorporate community service in your classroom.

Question 13: How are lessons learned regarding or relevant to GED students in career and technical certification programs, documented and implemented, at your college?

The lunch and learns are videotaped and shared with two satellite campus. Not sure if they save them or have them in a repository.

Wisconsin Midwest Community College

Student Survey Demographics

Table 23 displays the demographic information of the student participants from the Wisconsin community college. The 4 female participants, ranging in age from 60 or older (1 participant), 50 – 59 years of age (1 participant) and 2 individuals aged 40 – 49. Three of the participants are White, non-Hispanic, and one is Black, non-Hispanic. One participant (60+), received her GED certificate in 1980 and is enrolled in the Early Childhood Education program, employed as a part-time office worker at a child-care facility. One female (50-59 years of age), received her GED certificate in 2010, is enrolled in the Supervisory/management program and is not employed. One female, age 40-49, received her GED certificate in 2011, is enrolled in the Administrative Professional program, and is not employed. The Black, non-Hispanic female, age 40 – 49, also received her GED certificate in 2011, is enrolled in...
the Business management program, and is not employed. Table 24 provides a summary of the student response to the interview questions.

**Table 23. Wisconsin Student Demographic Survey Results**

<table>
<thead>
<tr>
<th># Participants</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Female</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>60 or older</td>
<td>50 - 59</td>
<td>40 - 49</td>
<td>40 - 49</td>
</tr>
<tr>
<td>GED Awarded</td>
<td>1980</td>
<td>2010</td>
<td>2011</td>
<td>2011</td>
</tr>
<tr>
<td>Certificate Program currently enrolled</td>
<td>Early Childhood Education</td>
<td>Supervisory Management</td>
<td>Administrative Professional</td>
<td>Business Management</td>
</tr>
<tr>
<td>Currently Employed</td>
<td>Part-time</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Student Interview Responses**

**Table 24. Wisconsin Student Responses to Interview Questions**

**Question 1: What made you decide to continue your education after receiving your GED certificate?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Fulfilling wish to Dad who pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Unable to move ahead on job; experience and attitude but no degree</td>
</tr>
<tr>
<td>Student 3</td>
<td>Job of 15 years closed, no high school diploma had to go back to school</td>
</tr>
<tr>
<td>Student 4</td>
<td>Had to go back in order to get unemployment</td>
</tr>
</tbody>
</table>

**Question 2: What factors influenced your decision most?**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Father, it was something very important to him</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>Was not content in lower lever jobs, want to grow and be more</td>
</tr>
<tr>
<td>Student 3</td>
<td>Job/employment potential</td>
</tr>
<tr>
<td>Student 4</td>
<td>Other individuals and workers who went back; what could it hurt</td>
</tr>
</tbody>
</table>

**Question 3: Has anyone in your family attended or graduated from a postsecondary institution? If yes, please explain.**

<table>
<thead>
<tr>
<th>Student 1</th>
<th>Son finished college and teaches, daughter in high school and doing continual education, oldest child attending college for degree in business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 2</td>
<td>From a family of 11 no one has attended college; has inspired brother to work on his GED</td>
</tr>
<tr>
<td>Student 3</td>
<td>No – first in the family to attend college</td>
</tr>
<tr>
<td>Student 4</td>
<td>Youngest has two degrees from the community college, second child has CAN certificate and third child is working towards a degree in business management</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

**Question 4: Can you describe how you feel/felt being a ‘college student’?**

| Student 1 | In the beginning I felt older and out of place, eventually I just fit in |
| Student 2 | At first frightening, not I enjoy it |
| Student 3 | At first felt out of place, didn’t fit in being older, eventually felt that everyone was working towards an education, age didn’t matter |
| Student 4 | Strange, thought too old to go back to school; college is much better than high school |

**Question 5: What are your personal goals: short-term and long-term?**

| Student 1 | Short-term retire soon and work part-time substituting or in day care or elementary school; long-term is open as the field offers lots of opportunities |
| Student 2 | Short-term keep going till graduation, long-term get a position in business management and get an AA degree |
| Student 3 | Short-term get an AA degree and a BA degree afterward; Long-term open a business to help ex-felons get education and job |
| Student 4 | Short-term just get through the next few weeks (medical issues); long-term not sure, on an internship and need to find employment |

**Question 6: Why is this program certificate important to you?**

| Student 1 | Something to fall back on, lots of options for future |
| Student 2 | Show kids work hard to achieve your goals |
| Student 3 | Something accomplished, be an example to the kids |
| Student 4 | Never thought I would go back to school, wish parents were alive to see accomplishments and achievements |

**Question 7: Do you plan to continue your postsecondary education? If so, in what field or area of study?**

| Student 1 | No plans right now, not sure if in the future |
| Student 2 | Yes, in business management and project management certification |
| Student 3 | Yes, a BA degree, hasn’t decided in what area |
| Student 4 | Yes, want to get an AA degree in Supervisory Management and take Green Generalist Sustainability courses |
Question 8: What influenced your decision the most to pursue this specific certificate program?

<table>
<thead>
<tr>
<th>Student</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>Daughter suggested that after layoff could work in daycare, both are in Early Child Development program</td>
</tr>
<tr>
<td>Student 2</td>
<td>Continually hearing that I needed a piece of paper at job interviews</td>
</tr>
<tr>
<td>Student 3</td>
<td>Lots of experience but not having a piece of paper to back it up</td>
</tr>
<tr>
<td>Student 4</td>
<td>Experience in the field, but no degree without a degree or certification I could not get promoted</td>
</tr>
</tbody>
</table>

Question 9: What outside factors influenced your decision to complete the career certification program?

<table>
<thead>
<tr>
<th>Student</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>School makes everything you need available, helps you work through all situations you’re having</td>
</tr>
<tr>
<td>Student 2</td>
<td>Other students and good instructors; school choice of online or class sessions</td>
</tr>
<tr>
<td>Student 3</td>
<td>Everyone at the plant recommended the school, checked out the options available</td>
</tr>
<tr>
<td>Student 4</td>
<td>Always told kids to finish what they started; they told me to do the same.</td>
</tr>
</tbody>
</table>

Question 10: What potential employment opportunities will completion of this certificate provide?

<table>
<thead>
<tr>
<th>Student</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>Either working in elementary school or opening a daycare</td>
</tr>
<tr>
<td>Student 2</td>
<td>It’s open, can go into HR or business law of communications, no specific area restricted to</td>
</tr>
<tr>
<td>Student 3</td>
<td>Work in a college somewhere to help ex-felons</td>
</tr>
<tr>
<td>Student 4</td>
<td>Haven’t looked at anything beyond the internship project; would like to be a motivation speaker for GED students continuing their education</td>
</tr>
</tbody>
</table>

Administrator Survey Demographic

Table 25 displays the demographic information of the administrator participant at the Wisconsin college. The Dean of Academic Support is female in the 60 or older age group. She held this position for 18 years. Her previous position was that of State Adult Education Specialist which she held for 5 years. No information was provided on highest educational level. Table 26 provides a summary of the response to the interview questions.
Table 25. *Wisconsin Administrator Demographic Survey Results*

<table>
<thead>
<tr>
<th># Participants</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>60 or older</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Not answered</td>
</tr>
<tr>
<td>Current Position</td>
<td>Dean, Academic Support</td>
</tr>
<tr>
<td># of Years</td>
<td>18</td>
</tr>
<tr>
<td>Previous Position</td>
<td>State Adult Education Specialist</td>
</tr>
<tr>
<td># of Years</td>
<td>5</td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Administrator Interview Responses**

Table 26. *Wisconsin Administrator Response to Interview Questions*

**Question 1: Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve, the Dream, Shifting Gears, I-Best, etc.? If yes, for how long?**

Working under Shifting Gears; working with career pathways. We call ourselves IBEST lite in that we’re not 100% team teaching although our teachers work with students in various programs in additional to their classes. Out Gen Ed is not separated out like other institutions, they are a part of our occupational programs. Academic support division provides prep courses to get students ready to go into Gen Ed classes.

**Question 2: In what ways do the career and technical certification programs have local business sponsors or business support (such as potential employment opportunities, internships, etc.)?**

Each program has an advisory committee which is from our local businesses and that’s a requirement of our college system. Recently hired internship coordinator to work with businesses to expand the internship opportunities for students in the local businesses and industries. Also do business panels/forums, to get their input on what skills they see lacking, what we need to emphasize on more, and feedback on what we’ve done. We also do a graduate and business follow-up survey to see if are graduates are being hired and again get feedback.

Businesses are involved in curriculum changes, and skills, unless it’s a state-wide program with state-wide curriculum. The teachers and business are involved in those committees to provide feedback. I believe it’s the technical community college system that makes a difference, not individual colleges.
Question 3: Are you aware of how, or in what ways, GED student are advised of career and technical certification programs at your college? If yes, please explain.

Variety of ways, but mainly from GED instructors. They talk about the value of furthering their education, postsecondary education and the different types of programs offered. Also have student services staff we come into classes and do career awareness discussions and, can arrange for program shadowing for students to see exactly what a specific job/career involves. Special days for student to do career explorations within the different programs. Summer GED transition bootcamp where they take GED graduates and get them ready to enter college.

Send letters out to GED graduates telling them to consider continuing their education with us and here are some opportunities.

Have counselors and advisors available to answer any questions students have and make appointments with student for additional followup.

Question 4: What do you believe are the influencing features of the career certificate programs to GED student?

I believe it our job placement in high wage jobs; job placement and where they can go. Although sometimes students don’t always consider all the factors involved with certain careers (nursing having to draw blood, or touch someone). Most GED students are motivated and are consistent and have a goal. They want a job or have a goal to better themselves.

Question 5: Are you aware of any process or procedures that track GED student progress and success at your college? If yes, please explain.

Under the Adult Education and Family Literacy Act (AEFLA) required to have a client report system that track students for grade level, increase, transition into postsecondary education, employment, retain employment. School-wide and state-wide reports done by the AEFLA service measures.

Internally, Institutional Effectiveness gets data needed for grants and national reporting, more of an on-demand type of reports and data.

Question 6: Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education degree programs (credit)? If yes, please explain.

Not sure if we do Continuing Ed; use to do Microsoft MOUS certification which might work its way into postsecondary. Most Continuing Ed classes are for EMT’s recertification types of things.

Question 7: What assistance/support service does your college provided to GED student? Please check all that apply: ___ Admissions, ___ Advising / counseling / mentoring, ___ Orientation, ___ Other (please list)

See number three: Orientation is not formalized; there is GED orientation and we have orientation within basic skills class. Admissions do financial aid seminars throughout the year and we encourage students to go. The instructors can request counseling, mentoring or advising and the staff would go into the classes more as an informal process.
**Question 8:** What other support issues, if any, are identified with increasing retention of GED student at your college?

Child care and transportation are the big issues of which we don’t have too much assistance available. Life issues for GED students are major but unfortunately there’s not funding to support those. We work with them to develop problem solving skills, like can we find someone can help with childcare two days a week, or is there someone you can carpool with.

Financial aid is a big barrier, especially with the new rules; students come in not having their GED and have to be turned down for financial aid. Most of the students have fulfilled that requirement, but just going through the paperwork (FAFSA) overwhelms them. For some students who have their GED and are in an occupational program, there is a scholarship for them, if they maintain a C average.

For GED students, making a connection with their instructor so keep encouraging them to come back. But retention is a very huge issue with GED because of life issues like transportation and childcare.

**Question 9:** What elements are in place, at your college, to address GED students’ perceived barriers to advancing their education?

Again, financial aid; getting students to see that once they put the money out and finish school, it will work for them in the long run. So we have a lot of charts showing what you earn with a high school diploma, what you earn with a two-year diploma, and with some college this is how much more you will earn.

One of the real barriers, is the thinking I’m not smart enough to do it; I’m stupid and the staff works a lot on that with the students through goal settings and mapping out how to get there. Students do Personal Education Plan with basic skills students. It’s reviewed every month or other month to map progress, see how far they’ve come, and plan the next goal.

GED students are here on campus with the other college students, so there’s no separation and I believe that’s why a lot of students in the state transition to postsecondary institutions.

**Question 10:** At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.

Most of the certificates lead to postsecondary degrees. Have embedded certificated that go along to a technical diploma. A little different than an associates’ degree at a community college. Working on career pathways to assist individuals coming in to do Integrated Adult Basic Ed can take classes in the welding pathway to get a welding certificate and take the core classes and get another certificate all the way up to a two year certificate.

We have career assessments, COMPASS placement before students come in and if they don’t meet the requirements, we place them in general college courses, your level 100, to get them ready for Gen Ed. They are credited courses but they do not lead to graduation.

**Question 11:** To what extent does the organizational structure of the career and technical certification programs contribute to matriculation, at your college? Please explain.

The career pathway concept within the state system helps GED classes are with a technical college system and that helps the flow right into technical college, so that the people get to see people in nursing, or phlebotomy, they are in the environment.
Question 12: Are there institutional or system reports for obtaining program feedback, sharing lessons and identifying support needs, at your college? If yes, please explain.

The Adult Education Family Literacy Act reports and what we do for Perkins Grants. Internally we get a team of program people, instructors, student support, student services, and we often do Fishbone diagrams to probe, what’s happening with our students, retention, and support needs.

Question 13: How are lessons learned regarding or relevant to GED students in career and technical certification programs, documented and implemented, at your college?

Mostly informal; once a GED student enters into the program they are not tracked so we’re not able to know unless a student shares that with a teacher. It’s something we may start looking at to see how many have passed 3 credits and passed 6 credits. I’m thinking to make it a part of our measures under QRP (quality review process) so that it will give us more data on how our students progress. There was a report put out about college success for working adults in the Wisconsin Technical College system.

Faculty Survey Demographics

Table 27 displays the demographic information from the Wisconsin college faculty member. The survey faculty member is a female in the 50 – 59 years age group. Her position is that of a teacher, which she had held for 8 years. Her previous position was that of a materials manager for 24 years. She did not list her highest education level. Table 28 provides a summary of the response to the interview questions.

Table 27. Wisconsin Faculty Demographic Survey Results

<table>
<thead>
<tr>
<th># Participants</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>50 - 59</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Not answered</td>
</tr>
<tr>
<td>Current Position</td>
<td>Instructor</td>
</tr>
<tr>
<td># of Years</td>
<td>6</td>
</tr>
<tr>
<td>Previous Position</td>
<td>Materials Manager</td>
</tr>
<tr>
<td># of Years</td>
<td>24</td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>unknown</td>
</tr>
</tbody>
</table>
### Faculty Interview Responses

Table 28. Wisconsin Faculty Response to Interview Questions

<table>
<thead>
<tr>
<th>Question 1: Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve, the Dream, Shifting Gears, I-Best, etc.? If yes, for how long?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not sure of the answer to this one – Dr. Antonelli could better answer the question</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 2: In what ways do the career and technical certification programs have local business sponsors or business support (such as potential employment opportunities, internships, etc.)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The local business owners are members of the advisory boards. They have input into the curriculum; what need to be added, changed or removed. The school has an internship coordinator who meets with the local businesses to see how the students can help meet their goals. A few of the businesses provide equipment to the school for the students to gain experience on what is currently being used on jobs. They also have individuals from the businesses teaching certain classes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 3: Are you aware of how, or in what ways, GED student are advised of career and technical certification programs at your college? If yes, please explain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The classes are advertised throughout the college, on the website. Not known if students get the information in the classrooms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 4: What do you believe are the influencing features of the career certificate programs to GED student?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The classes are advertised throughout the college, on the website. Not known if students get the information in the classrooms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 5: Are you aware of any process or procedures that track GED student progress and success at your college? If yes, please explain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No – there is no differentiating of whether a student has a GED or HS diploma when they enroll or while they're working on their diploma</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 6: Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education degree programs (credit)? If yes, please explain.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No – that is something Dr. Antonelli would know more about.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 7: What assistance/support service does your college provided to GED student? Please check all that apply: ___ Admissions, ___ Advising / counseling / mentoring, ___ Orientation, ___ Other (please list)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of these items are handled in the admissions area. I know there is counseling and advising, but I cannot answer how they are handled and who gets what service.</td>
</tr>
</tbody>
</table>
Question 8: What other support issues, if any, are identified with increasing retention of GED student at your college?

Transportation; this area is not serviced by bus so students needs gas to get back and forth or some means of transportation to get them to classes

Question 9: What elements are in place, at your college, to address GED students' perceived barriers to advancing their education?

Some faculty that works to assist students with problems that can be addressed by the school; working with financial aid and outside resources to assist when students need funding for classes or books; story of student who needed one semester to finish her diploma and just did not have the money. Faculty and administrators contributed to cover her tuition and books, and helped her out financial so that she could finish. They did not want to see her drop out because they knew she would have a very hard time getting back to finish.

Question 10: At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.

Making sure programs align to the degree and provide what's needed for the next level up. Work with local high schools and colleges to make sure that all the courses align and are transferrable

Question 11: To what extent does the organizational structure of the career and technical certification programs contribute to matriculation, at your college? Please explain.

Our collaboration with the local businesses and the advisory boards; the welding program for example. We have different levels that students can complete, each time earning a different diploma and getting experience in the local manufacturing businesses. The credits are transferrable and students can complete additional classes to earn an associates; degree.

Question 12: Are there institutional or system reports for obtaining program feedback, sharing lessons and identifying support needs, at your college? If yes, please explain.

Apart from the AGIP reports there is nothing specific. There was a local newspaper article on the first female welder to complete the program. We do surveys of the college, students, faculty, and businesses we work with but we don’t see the results of them.

Question 13: How are lessons learned regarding or relevant to GED students in career and technical certification programs, documented and implemented, at your college?

Apart from the newspaper articles, there is nothing.

Summary

This chapter describes the process of data collection used to obtain the rich, grounded content that will be used to draw understanding of how people make sense out of their lives (Merriam, 2009). The chapter began with a detailed description of the site, and participant contact protocol employed at each community college. Participant demographics and response to each interview question were presented in table format, by each individual college. This format provides a foundation for the data analysis that will be presented in the following chapter.
Chapter 5: Cross Case Analysis

Introduction and Purpose

Merriam (2009) describes data analysis as the process performed to make sense of the data by a process that identifies segments of the data that are responsive to the research questions. Creswell (2009) states that data collection, analysis, and reporting are not individual processes, but are interrelated, often occurring simultaneously during the project. As this research was based on a multiple-case study methodology, the data will be analyzed within each state community college and between states in order to provide insight into the commonalities and differences within institutions and locations.

The structure for this chapter includes a comparison of the data collected from the students, administrators, and faculty through the demographic survey, document review, and interview questions. It will continue with the comparison of Conceptual Framework theories as they relate to each of the four guiding questions. Next, the A Priori Themes for each of the framework theories, and the emergent themes from the interviews will be identified.

Demographic Comparison

Students

The Student Demographic Comparison, Table 29 below, displays the demographic information of the student participants at each of the participating institutions. From the Illinois community college, all three individuals are in the 30-39 age group, and are of Hispanic descent. The two female students received their GED certificate in 1997 and 2013 and the male received his in 2011. The female participants are enrolled in the dental hygienist and paralegal certificate program and the male student is in the welding program. None of the students were employed at the time of the interviews.

From the Indiana community college, two participants are in the 40 – 49 age group (one female and one male), and one female individual is under the age of 30. The female participant, 40–49 years of age, is white, non-Hispanic, earned her GED certificate in 1991, enrolled in the Applied Science program and was unemployed at the time of the interview. The male participant is black, non-Hispanic, earned his GED certificate in 2012, enrolled in the Culinary Arts program and was unemployed at the time of the interview. The youngest female, age under 30, is a Black, non-
Hispanic, who received her GED in 2013 along with her certificate as a Dentist Hygienist. She also was unemployed.

Lastly, from the Wisconsin community college, there were 4 female participants, ranging in age from 60 or older (1 participant), 50 – 59 years of age (1 participant) and 2 individuals aged 40 – 49. Three of the participants are White, non-Hispanic, and one is Black, non-Hispanic. One participant (60+), received her GED certificate in 1980 and was enrolled in the Early Childhood Education program, and is a part-time office worker at a child-care facility. One female (50-59 years of age), received her GED certificate in 2010, was enrolled in the Supervisory/management program and was not employed. One female, age 40-49, received her GED certificate in 2011, was enrolled in the Administrative Professional program, and was not employed. The Black, non-Hispanic female, age 40 – 49, also received her GED certificate in 2011, was enrolled in the Business management program, and was not employed.

Table 29. Student Demographic Comparison

<table>
<thead>
<tr>
<th></th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Illinois</td>
</tr>
<tr>
<td># Participants</td>
<td>3</td>
</tr>
<tr>
<td>Gender</td>
<td>2 female; 1 male</td>
</tr>
<tr>
<td>Age Group</td>
<td>3: 30 – 39</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>3: Hispanic</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>GED Awarded</td>
<td>Female – 1997</td>
</tr>
<tr>
<td></td>
<td>Male – 2011</td>
</tr>
<tr>
<td></td>
<td>Female - 2013</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Certificate Program currently enrolled</td>
<td>Female – Paralegal</td>
</tr>
<tr>
<td></td>
<td>Male – Welding</td>
</tr>
<tr>
<td></td>
<td>Female – Dental</td>
</tr>
<tr>
<td></td>
<td>Hygienist</td>
</tr>
<tr>
<td>Currently employed</td>
<td>3: No</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Student Demographic Comparison: seven of the ten students are recent GED recipients, having obtained their GED award between 2010 and 2013. Most of the students were female (eight of the ten), and all students were older adults, the youngest being in the 30 – 39 age bracket. Ethnicity of
the students was evenly represented; 3 Hispanics, 4 White non-Hispanic, and 3 Black non-Hispanic, all three Hispanic students attended the Illinois College.

**Administrator**

The administrator demographic comparison is shown in Table 31 below. The administrators at each college were female, over the age of 40 with years of experience in either adult education or academic administration. It is interesting that of the four participants, only one provided information on their highest level of education.

Table 30. **Administrator Demographic Comparison**

<table>
<thead>
<tr>
<th></th>
<th>Illinois</th>
<th>Indiana</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td># Participants</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>40 – 49</td>
<td>50 – 59</td>
<td>60 or older</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>No response</td>
<td>Masters</td>
<td>No response</td>
</tr>
<tr>
<td>Current Position</td>
<td>Dean Adult Ed. Director ABSE</td>
<td>Dean Academic Skills</td>
<td>Dean, Academic Support</td>
</tr>
<tr>
<td># of Years</td>
<td>5+ 3</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Previous Position</td>
<td>Associate Director ABS/ASE Supervisor</td>
<td>Department Chair – Academic Skills</td>
<td>State Adult Education Specialist</td>
</tr>
<tr>
<td># of Years</td>
<td>6 2</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>3.5%</td>
<td>unknown</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Faculty**

The faculty demographic comparison is shown in Table 32 below. Each respondent was a female, ranging between 30 and 60 years of age. Two of the four faculty members had obtained a Master’s degree, but the area of concentration was not indicated. All three had over five years of experience in adult education and two of three had prior experience in elementary education. One faculty member from Illinois did not complete the demographic survey.
Table 31. **Faculty Demographic Comparison**

<table>
<thead>
<tr>
<th></th>
<th>Illinois</th>
<th>Indiana</th>
<th>Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td># Participants</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
<td>Females</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Age Group</td>
<td>30 – 39</td>
<td>60 years or older</td>
<td>50 - 59</td>
</tr>
<tr>
<td>Highest Education Level</td>
<td>Masters</td>
<td>Masters</td>
<td>No response</td>
</tr>
<tr>
<td>Current Position</td>
<td>Adjunct Faculty</td>
<td>Faculty</td>
<td>Instructor</td>
</tr>
<tr>
<td># of Years</td>
<td>6</td>
<td>21</td>
<td>6</td>
</tr>
<tr>
<td>Previous Position</td>
<td>Middle School Teacher</td>
<td>Substitute Teacher</td>
<td>Materials Manager</td>
</tr>
<tr>
<td># of Years</td>
<td>5</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>If known, % of GED students in CTE programs</td>
<td>3.5%</td>
<td>unknown</td>
<td>unknown</td>
</tr>
</tbody>
</table>

**Document Review Analysis**

Documents collected from the community colleges consist of brochures, pamphlets, flyers and program information obtained from the college’s website. Websites, social media and other real-time applications offer a new method of collecting data, which Creswell (2007) describes as “new, innovative, and creative data collection that encourages readers and editors to examine their studies” (p.129). Table 32 below, provides a list of the documents received from each institution, or about the institution, and their relevance to the research.
In reviewing the documents and information available on the college’s website, I found that the material had little impact on the research and findings of this study. The majority of the literature was informational related, printed for display throughout the college or when requested by mailing or phone. Each college highlighted the timeframe for completion of a certificate, usually within six months to a year, which would appeal to those individuals needing some form of educational validation.

<table>
<thead>
<tr>
<th>College</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illinois</td>
<td>2012 Leading the Dream Report to the Community. Captures the events and progress of the college as recognized by the Achieving the Dream initiative. Highlights the major accomplishments, achievements of various programs, faculty, administrators, and students. Also provides a financial summary for the fiscal year, as well recognize the college’s Foundation contributors. Tri-fold brochures providing information on each of the four certificate programs available to students in the Adult Education and GED programs. Each brochure describes each program, program eligibility, benefits of enrollment, and highlights the completion of a program within two semesters. A contact name and number is provided for additional information. 10 page pamphlet that describes the services and resources agencies available for any one unemployed in the community college’s district. Included are resources for child well-being and care, counseling hotline numbers, shelter and food assistance services, employment assistance, as well as education and training programs offered at the community college. Contact numbers, and in some cases a website, are provided for each service. One page chart that diagrammed the college’s Student Success infrastructure. The chart displays a layout of the teams, their roles and areas of responsibility, and their relationship to the advisory council, President and Board of Trustees.</td>
</tr>
<tr>
<td>Indiana</td>
<td>Information was obtained from the college’s main website, which provides links to the Institute of Technology webpages. The Institute of Technology website displays the various technical certificates programs currently offered. The website describes the benefits of obtaining a technical certificate, and provides links to each of the specific programs available. Each programs webpage provides a brief description of the technical programs current being offered, the different career-pathways and industry certifications available, and contact information.</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>Information was obtained from the Wisconsin Technical College System website and the associated webpages. The website offers links to the 49 college campuses associated with the state’s technical college system. Each college website are information on the college, the various programs offered and links to additional information pertaining to services, admission and financial aid. The links to the certificate programs and technical diplomas provide a brief description of the overall program and additional links to each certificate and diplomas offered under the category. More detail information on outcomes, credits and courses are provided on the subsequent webpages.</td>
</tr>
</tbody>
</table>
for an entry level position or advancement on a current position. Each college worked at setting
students expectations regarding the timeframe for completion but also with describing the actual
classes needed to complete the program and in some instances, the time of the class offering, either
during the day or evening. This is important to the research audience, as it allows students to
determine their accessibility to attend classes that work best with their lifestyle.

**Interview Response Comparison**

The following section will provide a comparison, across the schools, of the student responses
to each of the interview questions. The comparison will be clustered by the interview responses
associated with each of the Guiding Questions. A narrative on the similarities and differences of the
responses will be provided at the end of each cluster. Table 33 will provide a comparison of the
student interview responses associated with Guiding Question One (interview questions one through
five).

**Students**

Guiding Question One: What are the intrinsic factors that influenced GED student’s decision to
complete career certificate programs in community colleges?

<table>
<thead>
<tr>
<th>Interview Question One: What made you decide to continue your education after receiving your GED certificate?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Illinois</strong></td>
</tr>
<tr>
<td>Information received from program Coordinator in a classroom visit.</td>
</tr>
<tr>
<td>Provide a stable home environment</td>
</tr>
<tr>
<td>Improve job skills and knowledge</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
**Interview Question Two: What influenced your decision the most?**

<table>
<thead>
<tr>
<th>Illinois</th>
<th>Indiana</th>
<th>Wisconsin</th>
</tr>
</thead>
</table>
| • The program coordinator explanation of the program and opportunities  
• Wanting a better home life and feeling of accomplishment  
• Make more money for family | • Parents, both were big on getting an education  
• Determination to prove I'm not a nobody  
• Tired of $7 and $8 jobs | • Father, it was something very important to him  
• Was not content in lower level jobs, want to grow and be more  
• Job/employment potential  
• Other individuals and workers who went back; what could it hurt |

**Interview Question Three: Has anyone in your family attended or graduated from a postsecondary institution?**

<table>
<thead>
<tr>
<th>Illinois</th>
<th>Indiana</th>
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</table>
| • No  
• Parents attempted, but didn’t finish  
• Older brother a lawyer, younger sister pursuing nursing career | • Both parents have college degree; brother went to college also  
• Daughter currently attending community college  
• No; the first in the family to get GED. | • Son finished college and teaches, daughter in high school and doing continual education, oldest child attending college for degree in business  
• From a family of 11 no one has attended college; has inspired brother to work on his GED  
• No – first in the family to attend college  
• Youngest has two degrees from the community college, second child has CAN certificate and third child is working towards a degree in business management |

**Interview Question Four: Can you describe how it felt being a ‘college’ student?**

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</table>
| • Overwhelmed in the beginning, but comfortable after a few weeks  
• Felt old around the other students, but felt good for accomplishing something  
• Great feeling | • I look at it as ‘getting down to business’  
• Like a teenager; very proud of myself  
• Overwhelmed and nervous at first; best experience of my life | • In the beginning I felt older and out of place, eventually I just fit in  
• At first frightening, now I enjoy it  
• At first felt out of place, didn’t fit in being older, eventually felt that everyone was working towards an education, age didn’t matter  
• Strange, thought too old to go back to school; college is much better than high school |
### Interview Question Five: What are your personal goals; short-term and long-term?

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<tbody>
<tr>
<td>• Short-term show children accomplishment; long-term dental assistant</td>
<td>• Short-term, get a job; long term to be certified in dental hygiene field</td>
<td>• Short-term retire soon and work part-time substituting or in daycare or elementary school; long-term is open as the field offers lots of opportunities</td>
</tr>
<tr>
<td>• just want to finish something</td>
<td>• Short-term, want a home, a place of my own to feel secure; long-term want to have a studio to display my photography</td>
<td>• Short-term keep going till graduation, long-term get a position in business management and get an AA degree</td>
</tr>
<tr>
<td>• Short-term to start another career; long-term to save money for my own business</td>
<td>• Short-term, get culinary degree; long-term open a restaurant and put people to work</td>
<td>• Short-term get an AA degree and a BA degree afterward; Long-term open a business to help ex-felons get education and job</td>
</tr>
<tr>
<td></td>
<td>• Short-term just get through the next few weeks (medical issues); long-term not sure, on an internship and need to find employment</td>
<td>• Short-term just get through the next few weeks (medical issues); long-term not sure, on an internship and need to find employment</td>
</tr>
</tbody>
</table>

In comparing the student responses to the interview questions associated with Guiding Question One, the most prevalent intrinsic factors appear to be one of proving their ability to accomplish something of value to themselves and others, while also boosting their self-confidence through improving job skills and attaining educational knowledge. The students seemed committed to providing a better home life for their family while also setting an example on the importance of education to their children.

It appears there were more external factors influencing student’s decisions as four of the ten students mentioned parents or other individuals outside of family who played a role in their decision and four others mentioned need better paying jobs. One student from the Illinois school specifically mentioned the program’s transition coordinator’s visit to a classroom to inform the GED students of the special program offered by the school in conjunction with GED classes as the deciding factor for continuing their education. From the Wisconsin school, two students spoke of needing to return to school in order to collect unemployment benefits, and two mentioned the inability to obtain a job they qualified for with experience but lacked a certificate or degree.

Improvement in self-confidence appears to manifest as the student’s accomplished their short-term goals, most of which involved completing their GED and certificate training. The majority of the students described being overwhelmed, nervous or frightening when they first returned to school, but
they continued and soon began to feel good about their work and accomplishments. As they became more comfortable in the college and classroom environment, students describe their experience as one of ‘getting down to business’, and ‘being proud of myself’. Several had long-term goals of obtaining additional education credentials, including Associate’s and Bachelor’s degrees. Five of the ten students mentioned a long-term goal of having their own business. The students realized the need to be persistence in facing challenges associated with continuing their education. As one student stated “it was strange going back to school at my age, but college is much better than high school’ and another student stated that sums it up by saying ‘this has been the best experience of my life’. It appears that the students seem to find value from their college experience.

Of the ten students interviewed, in only three cases was there no family history of attendance or completion of postsecondary education. Many had children who were attending or had attended school beyond the high school level. One student had siblings who held careers as a lawyer, and a nurse. One student had two adult children who had finished college and held jobs in teaching and business.

Table 34 will provide a comparison, across colleges, of the student interview responses associated with Guiding Question Two (interview questions six through ten). The comparison will be clustered by the interview responses associated with each of the Guiding Questions

Guiding Question Two: What are the extrinsic factors that influenced GED student’s decision to complete career certificate programs in community colleges?

Table 34. Comparison of Student Interview Response to Guiding Question Two

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<tr>
<th>Interview Question Six: Why is this certificate/degree important to you?</th>
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<tr>
<td>• I can now say I’ve achieved something, at my age</td>
<td>• It’s a way of life, everyone needs education in their life</td>
<td>• Something to fall back on, lots of options for future</td>
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<tr>
<td>• Through a lot of hardships I have accomplished something</td>
<td>• Start of my future, fulfilling of my dreams and future</td>
<td>• Show kids work hard to achieve your goals</td>
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</tr>
<tr>
<td>• To get a better job to help the family</td>
<td>• The achievement of a goal</td>
<td>• Something accomplished, be an example to the kids</td>
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<tr>
<td></td>
<td></td>
<td>• Never thought I would go back to school, wish parents were alive to see accomplishments and achievements</td>
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### Interview Question Seven: Do you plan to continue your postsecondary education; if so, in what field or area of study?

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<tr>
<td>• Continue in field of Dental Hygienist to become certified</td>
<td>• Yes – in a medical field, surgical tech</td>
<td>• No plans right now, not sure if in the future</td>
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<tr>
<td>• Eventually in legal field for animal rights</td>
<td>• Yes – AA in photography and business</td>
<td>• Yes, in business management and project management certification</td>
</tr>
<tr>
<td>• In HVAC</td>
<td>• Yes, in business and management</td>
<td>• Yes, a BA degree, hasn’t decided in what area</td>
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<tr>
<td></td>
<td></td>
<td>• Yes, want to get an AA degree in Supervisory Management and take Green Generalist Sustainability courses</td>
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### Interview Question Eight: What influenced your decision the most to pursue this specific certificate program?

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<tr>
<td>• The program existed that helped; school provided support</td>
<td>• It’s the one thing I would like to do</td>
<td>• Daughter suggested that after layoff could work in daycare, both are in Early Child Development program</td>
</tr>
<tr>
<td>• Myself – wanting to be a paralegal</td>
<td>• Love of outdoors and photography</td>
<td>• Continually hearing that I needed a piece of paper at job interviews</td>
</tr>
<tr>
<td>• Wanted to go back to school for a career</td>
<td>• Passion for cooking; can’t remember a time not cooking</td>
<td>• Lots of experience but not having a piece of paper to back it up</td>
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<td></td>
<td>• Experience in the field, but no degree; without a degree or certification I could not get promoted</td>
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### Interview Question Nine: What outside factors influenced your decision to complete the career certificate program?

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<tr>
<td>• Other friends who went back and were happy to accomplish something</td>
<td>• The structure of the classes, they don’t play here, get your GED and get out</td>
<td>• School makes everything you need available, helps you work through all situations you’re having</td>
</tr>
<tr>
<td>• Grandmother helped with children, Fiancé encouragement</td>
<td>• Encouragement from family and friends, support from the school</td>
<td>• Other students and good instructors; school choice of online or class sessions</td>
</tr>
<tr>
<td>• Family and job opportunities</td>
<td>• Support system; family, friends, church community</td>
<td>• Everyone at the plant recommended the school, checked out the options available</td>
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<td></td>
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<td>• Always told kids to finish what they started; they told me to do the same.</td>
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Interview Question Ten: What potential employment opportunities will completion of this certificate provide?

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| • Part-time internships as well as part-time employment in dental office to work on improving skills and gaining experience while still in school. | • There is a wide range of opportunities, from working in small dentist offices or private practices  
• Would like to work in retail, eventually having own business  
• Internship in the last semester | • Either working in elementary school or opening a daycare  
• It’s open, can go into HR or business law of communications, no specific area restricted to  
• Work in a college somewhere to help ex-felons  
• Haven’t looked at anything beyond the internship project; would like to be a motivation speaker for GED students continuing their education |
| • Will be moving out of state; not looking for employment at the moment.  
• Job opportunities in the field close to home | | |

In comparing the students responses to the interview questions associated with Guiding Question Two, institutional curriculum and programs and students intentional commitment to their goals appears to be the dominate extrinsic factor of influence. Eight of the 10 students responded positively to continuing their postsecondary education. All ten had identified future programs or career paths to pursue, most of which were tied to the certificate being earned. Each of the colleges offered advanced certificates and degrees in those areas of interest. Three of the four Wisconsin students specifically mentioned the school’s programs, options, instructors, or support services as a reason for completing their program. As one Wisconsin student states, “the school makes everything you need available, helps you work through all situations you’re having”.

Administrator and Faculty

Tables 35, below, provides a comparison of the administrator and faculty responses to the ten interview questions associated with Guiding Questions Three. The administrator response will be followed by the faculty response to each question.

Guiding Question Three: What are the program attributes that motivate GED students to complete the technical training program?
Table 35. Comparison of Administrator and Faculty Responses to Guiding Question Three

**Interview Question One: Are the career and technical certificate program associated/affiliated with a nation/regional career certificate program (Achieve the Dream, Shifting Gears, I_BEST, etc.? If yes, for how long?**

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| • We are an Achieving the Dream college and we are included in the Shifting Gears College Accelerating Opportunity Program  
• A part of the Shifting Gears program, and model after I-BEST | Affiliated with Achieving the Dream since 2009 | Working under Shifting Gears; working with career pathways. We call ourselves IBEST lite in that we’re not 100% team teaching although our teachers work with students in various programs in addition to their classes. Gen Ed is not separated they are a part of our occupational programs. Academic support division provides prep courses to get students ready to go into Gen Ed classes. |

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| • Similar to I-Best, transitioning to Accelerating Opportunities  
• Shifting Gears; program is based on the I-Best Model | Affiliated with Achieving the Dream for about 3 years; last couple of years associated with Complete College America | Not sure of the answer to this one – Program Administrator could better answer the question |
### Interview Question Two: In what way does this program have local business sponsors or business support (in the form of potential employment, internship, etc.)?

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<tr>
<td><strong>Illinois</strong></td>
<td>All C &amp; T programs have advisory boards made up of individuals who are a part of the local business community. Several individuals on the advisory boards also teach classes or will review student portfolio presentations for their capstone and grade presentations along with the instructor. Several businesses offer students internships and hire students and graduates. Have input into course content that addresses a regional needs.</td>
<td>Each program has an advisory committee made up of local businesses and that’s a requirement of the college system. Business panels/forums, give input on what skills they see lacking, what we need to emphasize on more, and feedback on what we’ve done. Businesses are involved in curriculum skills taught and changes unless it’s a state-wide program with state-wide curriculum. Teachers and business are on committees to provide feedback. I believe it’s the technical community college system that makes a difference, not individual colleges.</td>
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<tbody>
<tr>
<td><strong>Illinois</strong></td>
<td>For our region, most career certification has advisory boards made up of local businesses. They provide input into what the students’ needs to know, what the employers are looking for and they play a fairly large part in what the instructors are presenting as key elements to be successful in whatever career they choose.</td>
<td>The local business owners are members of the advisory boards. They have input into the curriculum; what needs to be added, changed or removed. The school has an internship coordinator who meets with the local businesses to see how the students can help meet their goals. A few of the businesses provide equipment to the school for the students to gain experience on what is currently being used on jobs. They also have individuals from the businesses teaching certain classes.</td>
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Interview Question Three: Are you aware of how, or in what ways, are GED student advised of career and technical certificate programs at your college? If yes, please explain.

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<tr>
<td>• All GED students meet with the Transitions Coordinator who is a single point person to help answer their questions and work with them to get all the information needed for the various programs.</td>
<td>GED students are treated no different than a regular student; they go through the same process as far as enrolling in the school. There are no GED classes taught on the campus, all student wanting a GED work the a local school/corporation that provide GED training and they articulate back to the college.</td>
<td>Mainly from GED instructors. They talk about the value of furthering their education, postsecondary education and the different types of programs offered. Also have student services staff come into classes and do career awareness discussions. They can arrange for program shadowing for students to see exactly what a specific job/career involves.</td>
</tr>
<tr>
<td>• When students enter to earn their GED here, they meet with the transition coordinator who informs them of the programs.</td>
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<td>Special days for student to do career explorations within the different programs.</td>
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<td>Summer GED transition bootcamp where they take GED graduates and get them ready to enter college.</td>
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<td>Send letters out to GED graduates telling them to consider continuing their education with us and here are some opportunities.</td>
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<td>Have counselors and advisors available to answer any questions students have and make appointments with student for additional followup.</td>
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## Faculty

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<tr>
<td>• Wall of brochures for every program that's available and offered. Instructors will work with students when an interest is expressed. GED and ESL students work with transition coordinator on everything from financial aid to all the programs available.</td>
<td>All students, not just GED, have advisor in whatever career they head towards. The advisors inform them of the courses they need to take and the order to take them in. Most advisors either teach the course or are familiar with the course and advise the students of pitfalls or difficulties they may encounter with a specific class. Students who are still working on GED can dual enroll, for one or two semesters.</td>
<td>The classes are advertised throughout the college, on the website. Not known if students get the information in the classrooms.</td>
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<td>• Informally by teachers, Transition Specialist talks to students about different programs and careers.</td>
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### Interview Question Four: What do you believe are the influencing features of the career certificate programs to GED students?

## Administrator

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<td>• The short-term commitment of the programs, mostly under one year, and the support of faculty members who are with them the entire year, so that the students are in a cohort environment with the same peers and faculty support. Programs are short-term and completed quicker, within one year.</td>
<td>Our Institute program is a short-term, one year program in different industries/businesses. Students are here 5 days a week from 8-3 and they get everything they need in one calendar year. Also there are classes with built-in industry certification that are recognized and valued by employers.</td>
<td>I believe it is our job placement in high wage jobs; job placement and where they can go. Although sometimes students don’t always consider all the factors involved with certain careers (nursing having to draw blood, or touch someone). Most GED students are motivated and are consistent and have a goal. They want a job or have a goal to better themselves.</td>
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## Faculty

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<td>• They offer something they can do that they’re interested in. They get a certificate when they finish one program and are able to go to the next level. Also the support classes where they have extra exercises, and review of the material and get more help with class work from the support instructor.</td>
<td>Students want to do something to help others out of their own personal experiences; they want to become child advocates, parole officers and go into human services all to help make a difference.</td>
<td>The school is known for teaching employable technical skills for students to be able to get local jobs. The curriculum is developed with input from the advisory boards which consist of members of the local job industries. The skills being taught are current and relevant to today’s job market.</td>
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Interview Question Five: Are you aware of any process or procedures that track GED student progress and success at your college? If yes, please explain.

Administrator

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<td>• This is the first year we’re working with institutional research to track Adult Education. It’s very limited and we’re working through the issues. • For students who are on Scholarship the financial aid person does track their progress. Other than that, I don’t know of any.</td>
<td>Because of the affiliation with Achieve the Dream, the progress of all students is tracked when they enter the school as new students, and are tracked out for 5 years of 150% timeframe.</td>
<td>Under the Adult Education and Family Literacy Act (AEFLA) required to have a client report system that track students for grade level, increase, transition into postsecondary education, employment, retain employment. School-wide and state-wide reports done by the AEFLA service measures. Internally, Institutional Effectiveness gets data needed for grants and national reporting, more of an on-demand type of reports and data.</td>
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<td>• Track their progress by standardized test they have to take to prove they are learning. Once they leave the program there is no tracking their progress • Some things may be tracked by Transition Coordinator but nothing official</td>
<td>Not on an institutional level; had a program that allowed instructors to track students’ progress and set up flags if fallen below a certain grade in a class. This would allow for contact with an advisor to discuss possible solutions. Usually the students just quit attending class and advisors are unable to contact</td>
<td>No – there is no differentiating of whether a student has a GED or HS diploma when they enroll or while they’re working on their diploma</td>
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Interview Question Six: Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education programs (credit)? If yes, please explain.

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|               | • Adult Ed is not a part of Continuing Ed, and not non-credited. We are credit but not transferrable college credits.  
• Not a part of Continuing Ed, students earn credits towards their certificates | Have remedial classes and developmental classes; based on placement assessments scores. Developmental and remedial classes are non-credit and are not transferrable. Outside local school/corporations offers GED Plus classes on campus which provides additional workshops for anyone wanting additional brush-up on math, or higher math level before taking the college placement assessment. | Not sure if we do Continuing Ed; use to do Microsoft MOUS certification which might work its way into postsecondary. Most Continuing Ed classes are for EMT’s recertification types of things. |

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| • Have Transition Coordinator to help figure out what they need and help them do it  
• We’re totally separate from continuing education. | The school has a college success orientation course for freshman that goes through what students need to do to be successful in college; look at your life, what do you do, how do you need to change to be successful/ or do you need to change to be successful in college. Another thing is combining a zero level class with a 100 level class in math and English so that students take the classes back to back, usually with the same instructor and they get assistance with any difficulties or problems in the assignments. | No – that is something Program Administrator would know more about. |
Interview Question Seven: What assistance/support services does your college provide to GED students? Please check all that apply: admissions, advising/counseling/mentoring, orientation, other (please list).

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<td>• 3 credit tuition waiver for GED graduates, and transportation assistance for all GED students. Our transition coordinator provides student support in a lot of different areas to assist the students • Our Transition Coordinator handles this with the GED student in any area needed</td>
<td>Not treated differently than any other student; there is admission support, advising support and orientation support (no counseling available at the school). All students are required to take one at least one student success class</td>
<td>See number three: Orientation is not formalized; there is GED orientation and we have orientation within basic skills class. Admissions do financial aid seminars throughout the year and we encourage students to go. The instructors can request counseling, mentoring or advising and the staff would go into the classes more as an informal process.</td>
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<td></td>
<td>The Transition Coordinator works with them in these areas. We also have Work Keys that students can take here on campus The Transition Coordinator has taken on that responsibility and it has been a key position and resource to help the program run smoothly. As teachers we can’t keep up with all that stuff</td>
<td>Again the orientation and their advisors are a part of admissions. With the advisor being in the field the student has chosen it helps with a lot of the issues students have</td>
<td>Most of these items are handled in the admissions area. I know there is counseling and advising, but I cannot answer how they are handled and who gets what service.</td>
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**Interview Question Eight:** What other support issues, if any, are identified with increasing retention of GED students at your college?

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<tr>
<td>• Scheduling of classes in terms of students’ working lives and commitments, flexibility of transfer classes when students get a job, NRS performance issues in terms of retaining GED students,</td>
<td>Again this is available for all students, GED students are not targeted out; there is tutoring support and based on course, there are some with supplemental instruction programs available. Within the last few years, making an effort to provide more student life kind of things so the students feel more connected to the college for support</td>
<td>See number three: Orientation is not formalized; there is GED orientation and we have orientation within basic skills class. Admission’s does financial aid seminars throughout the year and we encourage students to go. The instructors can request counseling, mentoring or advising and the staff would go into the classes more as an informal process.</td>
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<td>• Financial support, transportation and child care. Also students from other countries having cultural issues with education over family financial support, and younger students not valuing education</td>
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<tr>
<td>• Keep motivating them to continue and not quit because of home life/job issues</td>
<td>Other than we’re using Starfish which is advising where they get kudos for things done well, or I see we’re having a problem, how can we fix it, come in and let’s talk.</td>
<td>Transportation; this area is not serviced by bus so students needs gas to get back and forth or some means of transportation to get them to classes</td>
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<tr>
<td>• Navigating through registration; helping student with computer technology, the website and the school learning management system. Additionally childcare and transportation are sometime issues. Family pressures to work to help out with family finances, and cultural issues with education and time commitment involved</td>
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Interview Question Nine: What elements are in place, at your college, to address GED students’ perceived barriers to advancing their education?

**Administrator**

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<tr>
<td>• Personalized assistance, academic support, cohort environment with dedicated faculty members, and block scheduling</td>
<td>Depends of the situation: academically there are academic resources in place. For non-academic issues we use the local 211 resources to get the students help in any of those areas where resources are available.</td>
<td>Again getting students to see that once they put the money out and finish school, it will work for them in the long run. So we have a lot of charts showing what you earn with a high school diploma, what you earn with a two-year diploma, and with some college this is how much more you will earn. One of the real barriers, is the thinking I’m not smart enough to do it; I’m stupid and the staff works a lot on that with the students through goal settings and mapping out how to get there. GED students are here on campus with the other college students, so there’s no separation and I believe that’s why a lot of students in the state transition to postsecondary institutions.</td>
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<td>• Program has been in a separate building for a couple of years, so more like a little community outreach program than part of the college. Main building has tutoring centers and writing centers but most students use tutoring centers in their area. Need to get to students to make sure they have skills needed before signing up for college courses, which incurs tuition cost</td>
<td>We’re piloting a system called PERTS which is Carol Dweck Mindset philosophy on student beliefs and how those beliefs really affect what they do. It’s a program that looks at how to change the student’s perception of themselves and their abilities.</td>
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<td>• Individual teachers encouragement within the program; helping them understand a deficiency is not because of a lack of intelligence but a lack of experience;</td>
<td>Some faculty that works to assist students with problems that can be addressed by the school; working with financial aid and outside resources to assist when students need funding for classes or books; story of student who needed one semester to finish her diploma and just did not have the money. Faculty and administrators contributed to cover her tuition and books, and helped her out financially so that she could finish. They did not want to see her drop out because they knew she would have a very hard time getting back to finish.</td>
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Interview Question Ten: At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.

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|               | • The certificate programs have pathways to stackable credentials  
• Each certificate program determines the pathway to further degrees | Have built the curriculum to include stair-step provision. Depending on the career area the student is interested in, they can come in and get a career development certificate with approximately 12 credit hours, and build on that to get a technical certificate with one year, and build on that to get an associates’ degree and continue on to a bachelor’s degree at another institute. The highest degree we offer is an associates’. | Most of the certificates lead to postsecondary degrees. Have embedded certificated that go along to a technical diploma. A little different than an associates’ degree at a community college. Working on career pathways to assist individuals coming in to do Integrated Adult Basic Ed can take classes in the welding pathway to get a welding certificate and take the core classes and get another certificate all the way up to a two year certificate. We have career assessments, COMPASS placement before students come in and if they don’t meet the requirements, we place them in general college courses, your level 100, to get them ready for Gen Ed. They are credited courses but they do not lead to graduation. |

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| • Outside of the Compass test none. Certain certificate programs may have a pre-assessment exam, but not all  
• More to the next level of the program they’re in; after completing the first full term, they have a certificate for the basic level and can continue to the next level | We try to make all our certification programs align and have a beginning and an end so that we can get a technical certificate and then decide to go on to a Machine tool certification, and with a few more classes be able to get an associates’ degree. The building process has it so that with a technical certificate, you’re more than halfway to an associates’ degree | Making sure programs align to the degree and provide what’s needed for the next level up. Work with local high schools and colleges to make sure that all the courses align and are transferrable |

In reviewing the responses from administrators and faculty to the interview questions associated with Guiding Question Three, several institution factors appear to be most prevalent among the certificate programs attributes that motivate the students to complete their technical training.

These factors consist of institutional policies and practices, curriculum, advising, support and faculty/student interaction. The respondents at each college recognized the program structure of
providing relative short-term classes along with the curriculum being relevant to the current local employment opportunities at each college, provided an opportunity for students to learn while also gaining job skills and experience through internships. Each college mentioned the structure/model provided by the national career certificate training initiative the institute was affiliated with; Achieve the Dream at the Illinois and Indiana College, and Shifting Gears at the Illinois and Wisconsin college.

Another college practice mentioned at the Indiana and Wisconsin colleges was the inclusion of business leaders from within the community on advisory boards, committees, and as faculty member teaching specialized training classes. Indiana and Wisconsin both had a significant support relationship from the local/regional businesses, which contributed to the curriculum being relevant to teaching skills needed in the current job market. Both colleges also had support and funding from state legislation to assist with the development of new training identified as needed for business industries within the state.

Table 36, below, provides a comparison to the three interview questions associated with Guiding Question Four. The administrator response will be followed by the faculty response to each question.

Table 36. *Comparison of Administrator and Faculty Responses to Guiding Question Four*

| Interview Question Eleven: To what extent does the organizational structure of the career and technical certification programs contribute to matriculation at your college? Please explain. |
|---|---|---|
| **Administrator** | **Illinois** | **Indiana** | **Wisconsin** |
| • More collaboration among the various workforce programs under the a special workforce transition department, offering bridge programs to various industrial programs | We have a standard 16 week semester, but we also try to offer shorter term classes of 4 weeks and 8 weeks; so a student can do some 4 or 8 week classes in addition to or instead of the regular 16 week term. Also a lot of online classes available for students interested in that. Making sure that faculty and others stay up to date on the mechanisms students use to communicate, not all students use or are aware of school email accounts. | The career pathway concept within the state system helps GED classes are with a technical college system and that helps the flow right into technical college, so that the people get to see people in nursing, or phlebotomy, they are in the environment. |
Faculty

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<td>• Once the students come out of the program they’re on their own as regular college students. There are advisors and others to help but the cohort structure and support goes away. • The programs offer a series of certificates and builds rather than having to do the whole nine-yard before you get anything.</td>
<td>Back to the advisory board, they have work with curriculum development to make sure what the students learn is relevant to the current job market. A big compliant I hear from many students, especially single mothers, is the issue of childcare. If we could have some sort of childcare would make a huge difference for many students.</td>
<td>Our collaboration with the local businesses and the advisory boards; the welding program for example. We have different levels that students can complete, each time earning a different diploma and getting experience in the local manufacturing businesses. The credits are transferrable and students can complete additional classes to earn an associates’ degree.</td>
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Interview Question Twelve: Are there institutional or system reports for obtaining program feedback, sharing lessons and identifying support needs, at your college? If yes, please explain.

Administrator

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<td>• Newly implemented college-wide student success infrastructure, made up of taskforces from each area that report on projects and other events in each area; provides feedback on what’s happening all over the school. • There may be something done within other groups and among instructors but nothing on an institutional level.</td>
<td>The one place we’re not as good as we should be, still learning how to analyze all the data and determine what it means. One are of our struggle is trying to get the student voice included by the use of focus groups and other things. We can look to the hard data for specifics on number of students returning, left, grades and such; but hard data does not address the lessons learned on why things are the way they are; and for that you need student input.</td>
<td>The Adult Education Family Literacy Act reports and what we do for Perkins Grants. Internally we get a team of program people, instructors, student support, student services, and we often do Fishbone diagrams to probe, what’s happening with our students, retention, and support needs.</td>
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### Faculty

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<td>Inside of Adult Education there is a round table session once a semester to share lessons learned. Adult Ed administration keeps track of what level the students are at, what level they will move onto, and how they did on standardized test Not sure; program instructors develop curriculum/lesson plans for whoever teaches the class; we're just getting into institutional reports, we have some informal tracking we keep ourselves</td>
<td>On this campus we have started Lunch and Learn sessions for faculty to come and share how they use collaborative learning tools into their classes and variety of situations. We’re also looking at an international push for our students to think or consider traveling abroad or within the country to provide a service to the community. Also here on our campus there is a lot of feedback between the different departments on how can you incorporate community service in your classroom</td>
<td>Apart from the AGIP reports there is nothing specific. There was a local newspaper article on the first female welder to complete the program. We do surveys of the college, students, faculty, and businesses we work with but we don’t see the results of them.</td>
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**Interview Question Thirteen:** How are lessons learned, regarding or relevant to GED students in career and technical certification programs, documented and implemented at your college?

### Administrator

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<td>• Starting to track work done by Transition Coordinator for; having students from the program speak at various functions, getting faculty and others involved outside of our own box, bring individuals from other parts of the school in to talk to our students</td>
<td>Except for Achieve the Dream, there isn’t a lot of documentation. Recently appointed an Institutional Research person whose main charge is to determine what data is needed to address the questions of support and other things of that nature. Will be done collectively for all students, not just GED, starting to figure that out, but have a ways to go before we get there.</td>
<td>Mostly informal; once a GED student enters into the program they are not tracked so we’re not able to know unless a student shares that with a teacher. It’s something we may start looking at to see how many have passed 3 credits and passed 6 credits. I’m thinking to make it a part of our measures under QRP (quality review process) so that it will give us more data on how our students progress. There was a report put out about college success for working adults in the Wisconsin Technical College system.</td>
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In comparing administrators and faculty responses to the three interview questions associated with Guiding Question Four, administrators and faculty at each college felt the relevance of the training programs, short timeframes for completion and the career pathway and stackable credentials approach for obtaining a series of certificates were significant factors that contributed to student completion and matriculation. One administrator from Illinois would like for there to be more collaboration among the various workforce programs at that college. Faculty at the Indiana and Wisconsin colleges reiterated the importance of advisory boards and business input on curriculum, development.

Lastly, each college recognized the need to improve institutional reporting on GED student success, and the sharing of information on lessons learned from the certificate programs. Most reports, when available, were informal in nature, and usually shared among the group’s members. The Indiana administrator was the only one to mention documentation associated with the Achieve the Dream initiative.

**Conceptual Framework Comparison**

The following section will provide a comparison of the student responses to the tenets of the conceptual framework theories for this research. The findings of this research are analyzed through the lenses of Lent, Hackett, and Brown’s Social Cognitive Career Theory (SCCT), Astin’s Theory of Involvement, and Tinto’s Theory on Retention.
The SCCT theory is built on three key components; self-efficacy expectations, outcome expectations, and personal goals. The major tenet of the theory is individuals are lead to certain career selections based on their interest, environment, and opportunities. These variables, along with beliefs in their ability to complete the actions needed to achieve their goals, influence their efforts to face, and overcome, obstacles to achieve success. Astin’s Theory of Involvement proposes that student involvement in their academic experience has a positive impact on their development and learning. Student learning and personal development, associated with any educational program, is directly affected by the quality and quantity of involvement they have in the program. Components of the Involvement theory include factors of self-involvement and institutional involvement. Lastly, Tinto’s Theory on Retention looks at various influences on a student’s commitment to their postsecondary education. These influences can include an individual’s per-entry attitudes, skill level, ability level, values and goals, and family background, as well as institutional policies, practices, programs, and faculty and administration.

While each of the theories is based on specific constructs relevant to the theorist’s perspective, there is some overlap between the theories and their impact on influencing students’ educational outcomes. SCCT’s Theory and Tinto’s Theory on Retention both identify the relevance of personal goals, attitude, outcome expectations, and commitment as having an influence on individual’s efforts to achieve their desired outcome. SCCT’s Theory and Astin’s Theory of Involvement both recognize the importance of self-esteem, values, confidence, and self-efficacy as being major components on how individuals look at their abilities to complete the goals. Lastly, both Tinto’s Theory on Retention and Astin’s Theory of Involvement identify external factors of institutional administration faculty, curriculum, policies, programs, support, as well as family relationship and support as having an impact on the student’s success in achieving their goals and expected outcomes.

The a priori themes identified from the conceptual framework theories for this study, were used to classify the participants’ responses to the concepts of each theory. The concepts of the theories had been categorized to analysis the data and its relationship to each theory. From these categories, descriptors were developed by the researcher to associate participant responses to the concepts of each theory. These descriptors are keywords or phrases, used by the respondents in the
interviews that also align to words and/or phrases used to identify concepts and factors of each theory.

Table 37 below outlines the descriptors to each *a priori* theme.

**Table 37. Keyword Descriptors for Conceptual Framework Theories – a priori themes**

<table>
<thead>
<tr>
<th>SCCT Theory</th>
<th>Having the belief in one’s ability to perform a specific behavior, accomplishing specific goals, by persisting in the face of obstacles and barriers</th>
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<tbody>
<tr>
<td>Self-Efficacy</td>
<td>Outcome Expectations</td>
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<tr>
<td>abilities</td>
<td>behaviors</td>
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<tr>
<td>confidence</td>
<td>activities</td>
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<tr>
<td>perseverance</td>
<td>interest</td>
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<td>succeed</td>
<td>persistence</td>
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<td>experiences</td>
<td>experiences</td>
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<td></td>
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<tr>
<td>Theory of Retention</td>
<td>Influences on a student’s commitment to their postsecondary education</td>
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<tr>
<td>Support</td>
<td>Institutional Factors</td>
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<tr>
<td>family</td>
<td>faculty/advisor</td>
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<tr>
<td>friends</td>
<td>curriculum/programs</td>
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<tr>
<td>faculty</td>
<td>policies/practices</td>
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<tr>
<td>expectations</td>
<td>class structure</td>
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<tr>
<td>discipline</td>
<td>tutors/mentors</td>
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<td>‘fit’ into environment</td>
<td>peer/study groups</td>
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<tr>
<td>Theory of Involvement</td>
<td>Student involvement in their academic experience has a positive impact on their development and learning</td>
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<tr>
<td>Self-Involvement</td>
<td>Institutional Factors</td>
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<tr>
<td>family relationships</td>
<td>faculty/student interaction</td>
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<tr>
<td>self-esteem/confidence</td>
<td>counseling/mentoring</td>
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<td>values</td>
<td>curriculum</td>
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<td>policies/practices</td>
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<td>support</td>
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<td>peer interaction</td>
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Chart 3 below provides a cumulative summary comparison of the ten student responses to the five interview questions associated with Guiding Question One. The responses were categorized by keyword descriptors applicable to each theory. The number displayed by each descriptor represents a count of students referencing that descriptor in their response to the question. The chart is followed by a narrative analyzing the responses to each applicable conceptual framework theory, and a summary highlighting the findings from the responses to the Guiding Question. Questions scoring a **five (5)** or higher were considered significant and therefore are addressed in the analysis.
Guiding Question One: What are the Intrinsic factors that influence GED students’ decision to complete career certificate programs in community colleges?

The Social Cognitive Career Theory (SCCT)

The SCCT theory proposes that individuals’ career behavior is a result of the interaction between self-efficacy, outcome expectations, and goals. Individuals are shaped by their environment and the impact of their environment on personal and behavioral factors. Changes to their environment will have an impact of each of the three components of the theory. Self-efficacy, the belief in one’s ability to succeed, determines the choices made, the effort put forth, how long individuals persist in the face of obstacles and challenges, and how individuals feel about their efforts.

The SCCT theory appears to have a strong relationship to the student responses to interview questions one, three, four, and five. Chart 3 above, highlights the students high scores in self-efficacy under confidence and their ability to complete the programs. Students were determined to persist through challenges and uncomfortable situations, and they continued performing the needed activities to accomplish their goals. Several students from Illinois and Wisconsin were faced with extremely challenging situations (homelessness, divorce, single mothers with children to support, unemployment)
but they were determined to complete the programs and persistent in getting the support needed to accomplish that goal. Indiana and Wisconsin students discussed how confidence in their abilities improved as they began to realize they were just like the other college students; working toward the same goal of completing their education. The more students discussed their future plans, what they had completed and what they wanted to achieve (interview question five), the more confident they became during the interviews. Bandura’s Social Cognitive Theory, upon which the SCCT theory is based, states that human conduct results from the interplay between self-beliefs and environment. According to Chart 3 above, it appears that most of the students were in an educational environment that encouraged their growth in confidence and abilities. The schools provided the resources the students needed to be successful and encouraged their success with support and programs to assist them overcome difficulties. As several students reflected back on their journey the majority express pride over their experience and felt very good about what they had achieved and their future. As one Wisconsin student commented:

“Once I got the GED it was an easy journey to continue. The college had everything right there to help, it was smooth sailing. I can get an office assistant certificate, an early childhood certificate, and even go back to get an associates’ degree. It’s all right there”.

**Tinto’s Theory on Retention**

The intrinsic factors of Tinto’s Theory on Retention identify student goals, commitment aspirations, and intentional commitment as factors of influence. Interview question one and five showed a strong relationship to student retention. Interview question one asked about intrinsic factor of influence for completing the program, of which the students implied their goals and aspirations. It appears the students’ demonstrated intentional commitment was to complete the program, and be a role model for their younger children. Interview question five asked the students about short and long term goals. It appears that students at each college had developed short-term and long-term goals with several including continuing their postsecondary education. Additionally, several students from each of the colleges had specific goals to start their own business which implies their commitment to completing their aspirations and dreams.
There also appears to be extrinsic factors of influence as student responses indicated an external commitment to job and employment opportunities. Several students mentioned making more money, providing a better family life, and obtaining jobs paying better than minimum wages as factors for their persistence and retention in the programs.

**Astin’s Theory of Involvement**

Interview questions two, three, and four were most applicable to Astin’s Theory of Involvement which looks at student’s personal growth and development through their involvement in academic and social activities. The intrinsic factors of influence in the Theory of Involvement include student’s self-esteem, self-confidence, and student’s personal values and family relationships. Applying this to the research, many students’ expressed the feeling of apprehension, nervousness and feeling out of place, upon first entering school. But as their confidence began to increase, they eventually overcame those feelings to realize that, as one student stated, ‘everyone here was working towards an education, age didn’t matter’. It appears their involvement in peer-groups, and/or cohorts, provided the support needed to overcome their personal apprehensions while their classroom experiences helped to increase their confidence in their abilities. One Illinois student sums up her experience saying:

“I didn’t see going back because I had no time, but the support was there to help me with the work, you want to keep going to accomplish something. I could not have continued if the program and the support did not exist. Now I’m happy and excited about getting certified, a big achievement”.

The students with children expressed a need to emphasize the value of education by example, thereby demonstrating the importance of accomplishing goals. For both the Illinois and Wisconsin students family relationships appears to be an influencing factor. An Illinois students states:

“Without school you will get nowhere. I didn’t want my kids to use me as an example by saying ‘you didn’t finish’, I didn’t want them to mimic me. I wanted to prove to myself that I could accomplish something, to show my kids it’s possible”.

**Summary of student responses to Guiding Question One**

Guiding Question One and the five associated interview questions were asked to gather the student’s perception on intrinsic factors that influenced their continuance in completing a GED program and a career certificate program at a community college. It appears that there was a strong
relationship between the student’s responses and the components of the SCCT Theory and Astin’s Theory of Involvement regarding influencing student to complete their designated career program. Self-Efficacy was a dominate factor as the majority of the students’ responses involved their confidence, beliefs in their abilities, achieving personal goals, and overcoming barriers and dealing with obstacles that occurred throughout the process. The SCCT Interest Development Model (see Figure 8, pg. 78) maintains that people form enduring interest in an activity when they view themselves as competent at it, and when they anticipate that performing it will produce valued outcomes. Due to life experiences and circumstances students’ realized the value of completing their secondary education and obtaining some form of a postsecondary education. They were determined to complete their educational journey. Personal and family values also played a role, as several students were influenced by the value their parents placed on education and their wanting to fulfill those dreams, even if the parents were deceased. Another personal value that was repeated across colleges was a sentiment of wanting to provide a more stable home life for their family through improving job skills to make more money, and obtaining a better paying job. Inter-relating factors from the Theory of Involvement include family relationship, self-esteem and confidence, and values and from the Theory of Retention includes aspiration and intentional commitments.

Guiding Question Two: What are the Extrinsic factors that influence GED student’s decision to complete career certificate programs in community colleges?

Chart 3 below provides a cumulative summary comparison of the ten student responses to the five interview questions associated with Guiding Question Two. The responses were categorized by keyword descriptors applicable to each theory. The number displayed by each descriptor represents a count of students referencing that descriptor in their response to the question. The chart is followed by a narrative analyzing the responses to each applicable conceptual framework theory, and a summary highlighting the findings from the responses to the Guiding Question. Questions scoring a five (5) or higher are addressed in the analysis.
For Guiding Question Two the SCCT Theory appears to have some relationship to interview questions six, seven, eight, and ten, which explores the importance of the specific certificate program the student selected and the potential employment opportunity it could provide. A significant number of students from each college cited the achievement of personal goals and values, and the feeling of accomplishment as the reason behind their career selection. Several mentioned the certificate as providing an opportunity for their future, be it employment or being an example for their children or other family members to follow. Three of the four students from the Wisconsin college mentioned lost job opportunities due to their not having a degree or certificate. They were told, on several occasions, they had the experience but they needed a ‘piece of paper’ to back it up. It appears that the student’s belief in their abilities, experiences, and accomplishments influenced their completing the selected career program and, in several cases, the GED program also.

Tinto’s Theory on Retention

From Chart 4 above, the extrinsic factors of Tinto’s Theory on Retention are addressed in Interview Questions seven, nine, and ten. These questions explore the support and institutional
aspect on the students influence to complete their education. The Tinto’s theory cites three areas of involvement that affects student’s retention; institution’s academics, faculty & student groups, and academic and social integration. Tinto recognizes the importance of academic and social integration to students successfully completing their educational endeavors. The students from Indiana and Wisconsin were most vocal in their appreciation of the support they received from the school. They felt the college’s programs offered them not only the educational instructions needed to succeed, but also the structure and quality of the programs, and instructors, made it possible for them to gain the experience needed to succeed after completing the program. One Indiana student commented that ‘the structure of the classes and the mindset of the faculty was one of ‘they don’t play, get your GED and get on with your life’. An Illinois student commented on the setup of the classes and the labs; having a large variety of different machines to work on, and also having dedicated instructors to assist with each class. It appears that the relationship among these components encouraged the student’s commitment to the institution while also enhancing their intentional commitment to completing the program, and achieving their goals.

Astin’s Theory of Involvement

Astin’s Theory of Involvement is most applicable to Interview Questions six. Under the self-involvement component student values was a dominate factor, followed by family relationships, and self-confidence. Under the institutional component of the theory faculty and student interaction, policies and practice, curriculum and support was a dominate factor as extrinsic factors of influence.

Students at the Illinois and Wisconsin College ranked values, self-confidence, and family relationships as dominate factors when asked the importance of the certificate. The theory finds that motivation and the behavior of a student can be affected by non-academic as well as academic factors. The extrinsic factor for a majority of the students was the desire to be an example for a family member or providing a better future for them and their family, and or, improving their own feeling of value and self-worth by accomplishing something they felt was important.

Students at the Indiana and Wisconsin College ranked the institutional component as being a major extrinsic influence on completion of their certificate program. Dominate factors included faculty and student interaction, institution policies and practices, curriculum and programs, and lastly support.
Three out of four Wisconsin students accredited their success to the interaction between faculty and students, the school’s programs, instructors, course options, and support. One Wisconsin student states:

“It was the other students that helped to keep me motivated. I had good instructors who work hard to get me the help I needed (there were some that turned me off). I had a choice of online or classes’ sessions which made me feel better (I prefer in class)”.

The Involvement Theory finds community colleges that operate vocational and occupational programs have a high retention rate due to their ability to generate powerful peer bonds among student participants. Community colleges are smaller institutions that serve older, part-time adults and vocational and terminal occupational students. The nature of these programs allow for shared career interest among like-minded students, exposure to a common set of curricular experiences, small classes with regular faculty members responsible for classroom instruction and academic advising.

**Summary of student responses to Guiding Question Two**

Guiding Question Two and the five associated interview questions were asked to gather the student’s perception on extrinsic factors that influenced their continuance in completing a GED program and a career certificate program at a community college. While each theory played a role in influencing the students Astin’s Theory of Involvement and Tinto’s Theory on Retention appear to be most prevalent.

Tinto’s Theory on Retention seems to have the strongest relationship in the areas of institutional curriculum and programs and in student’s commitment to goals and aspirations. The theory states that the level at which the student is able to integrate and affiliate the institution attributes with their own will determine whether they complete the program. Additionally, the theory cites that a student’s background, their prior academic performance and socioeconomic status, should be taken into account to understand their interaction with postsecondary institutions. The majority of the students expressed the need to demonstrate to their children the advantages of a postsecondary education. This is one of the characteristics Tinto finds to be an important factor, the interest and expectations parents have for their children’s education and their own educational performance and commitment to completing their educational endeavors. In a way, the students appear to be setting an
intentional commitment or an ‘expectation’ for their children to follow in their footsteps, passing on the value of education.

Astin’s Theory of Involvement also had a great influence in the institutional areas of faculty/student interaction, support, and policies/practices as well as the areas under self-involvement; family relationships, self-confidence, and values. The theory states that faculty interaction both inside and outside the classroom, high quality programs, and policies reflective of the institutional commitment to student learning are necessary for student growth. Because of the mission of community colleges and of career and technical institutions, students in similar circumstances with common needs have an opportunity to interact and learn together. This is in keeping with the theory’s premise on the positive effect of peer groups on enhancing student involvement in the learning process. Both the Indiana and Wisconsin colleges offered programs that provided for a collaboration of faculty and administrative staff which included support services, to build a learning environment that promotes student learning. Illinois and Wisconsin colleges offered programs in a cohort/peer group model which included dedicated faculty members that attended classes along with the students, in addition to providing tutoring and mentoring classes to assist with assignments. The students felt these factors were a major influence and impact in their success.

Lastly, while the SCCT theory is most applicable to intrinsic factors of influence, the theory states that personal goals can influence the development of self-efficacy, and outcome expectations. Outcome expectations can also involve beliefs about extrinsic reinforcements, and receiving a tangible reward for successful performance. Several students expressed belief in their job skills, their accomplishments, and prior work experiences being a factor in improving their employment opportunities. Also, self-efficacy and goal expectations affect goals that one selects and the effort expended in their pursuit. They were encouraged and supported by external factors of family, friends and the institution to pursue their education and their dreams.

**Guiding Question Three: What are the program attributes that motivate GED students to complete the technical training program?**

Guiding Questions Three was addressed to the four administrators responsible for oversight of the college’s workforce development or certification programs, and four faculty members teaching
classes in the programs. These individuals were included in the study to provide input from an administrative and academic perspective on program attributes that contribute to GED students completing the technical training program. Of the eight participants, two administrator and two faculty members were from the Illinois College while one administrator and faculty member was from both the Indiana and Wisconsin Colleges.

Chart 4 below provides a cumulative summary comparison of the four administrator, and four faculty responses to the ten interview questions associated with Guiding Question Three. The responses were summarized by keyword descriptors applicable to each theory. The number displayed by each descriptor represents a count of responses from administrators and faculty referencing that descriptor. Questions scoring a **four (4)** or higher were considered significant and therefore are addressed in the analysis. The chart is followed by a narrative analyzing the responses to each applicable conceptual framework theory, and a summary highlighting the findings from the responses to the Guiding Question.
The Social Cognitive Career Theory (SCCT)

Components of the SCCT theory appear to have little to no impact on Guiding Question Three, which addresses certificate program attributes that motivate GED students to complete their education. As the SCCT theory applies mostly to intrinsic factors pertaining to the individuals themselves, it would seem only logical for this theory to not be applicable. Interview question four however did register a response from administrator and faculty at the Wisconsin and Indiana colleges worth noting. Asked to identify what they saw as influencing features of the certificate program to GED students, the administrator at the Wisconsin college stated, “most GED students are motivated, and are consistent, and have goals; they want a job or have a goal to better themselves”. The Indiana faculty member noted the students wanting to do something to help others out of their experiences; something to help make a difference in others’ lives. The responses relates to the SCCT theory’s concept that individual beliefs in themselves, their environment and possible career path plays a key role in the construct of their career outcomes.

Tinto’s Theory on Retention

Tinto’s Theory on Retention proposes that increased levels of academic and social integration of the student will lead to greater commitment to the institution, which is more likely to increase the
students’ potential to persist and graduate. Organizational aspects of this theory applicable to this research include institutional size, resources, and faculty-student ratios. A student’s beliefs are affected by their experiences both with and within the institution. This facilitates their sense of belonging or fitting in. As students develop a sense of fairness, and responsiveness from administrators, faculty, and staff regarding policies, and practices that addressing their concerns, they are more inclined to persist through challenges to complete their educational goals. From the responses to Guiding Question Three the institutional category showed a major influence in nine of the ten interview questions in specific areas of policies and practices, curriculum/programs, and faculty/administrative advising displaying a majority of the responses. Under the support category, faculty support also appears to be a significant factor.

Regarding policies and practices, each college was affiliated with a national career training initiative, such as Achieve the Dream, I-Best, or Shifting gears, which provides a recognized program model for integrating basic adult education with skills training. One approach of the I-Best model includes the use of dual instructors in the classroom at the same time. This approach is used at the Illinois College, where a full-time instructor is assigned to each cohort and attends the technical classes along with the students. This dedicated instructor is responsible for providing assistance to the students with their technical class assignments, in addition to providing instructions for the GED component of the program. Similarly the Wisconsin College uses the team teaching approach with faculty dedicated to providing additional mentoring, and tutoring classes. Also at the Wisconsin College, academic support is provided to the students as they prepare for General Education classes. One of Tinto’s principles of effective retention asserts that effective retention programs are committed to the students they serve, putting the student welfare ahead of other institutional goals.

Interview Question Two looked at the impact of business support and sponsorship within the technical programs. From the responses there appears to be significant support from businesses at each college in the form of advisory boards and committee members, specialized equipment and trainers/instructor for specific special classes. In Wisconsin, it is a college system requirement for each technical program to have advisory board and committee members from local and regional businesses. In both Wisconsin and Indiana the advisory boards are involved with curriculum
development, as well as updating courses content to insure the training is relevant to the skills needed in the current job market. Additionally, in Wisconsin and Indiana, several board and committee members teach certain specialized classes as well as assist in the review of student portfolios and presentations. It is this type of business involvement that the administrators and faculty attributes to the program’s success and the students remaining in the program through completion. As the Indiana College faculty member stated:

‘For our region, most career certification has advisory boards made up of local businesses, that provide input into what the students’ need to know, and what the employers are looking for; they play a fairly large part in what the instructors are presenting as key elements to be successful in whatever career they choose”.

Another practice that was common among the colleges was the structure of the program schedule. Interview Question Four asked the participants to identify what they thought were the influencing features of the career certificate programs to GED students. One of the major features mentioned was the short duration for completing their GED and obtaining a certificate. At each institution a student could obtain a certificate and their GED within a one-year timeframe, thereby accomplishing a goal of completing their education and feeling confident in their abilities to find gainful employment.

In Illinois, the GED classes were held in a building adjacent to the main campus, but the specific certificate training classes was held on the main campus. Programs are offered on a short-term timeframe, most being completed under one-year. Offered in a cohort environment, each program has a career path that can lead to more advance certificates, and the stackable credits provide a pathway to degrees. As one faculty member from Illinois noted,

“They are offered something they can do that they are interested in. They get a certificate when they finish one program and are able to go to the next level; there are support classes that provide extra exercises and review of material, and they are able to get more help with class work from the support instructor”.

In Indiana, GED classes are taught offsite by an outside organization, but students can dual enroll for one to two semesters at the college, and upon obtaining their GED certificate, can articulate
back to the college for technical classes. Students are assigned advisors from within their area of
study, and several advisors also teach the classes. This affords the advisors an opportunity to work
with students on course planning and to also provide insight on difficult classes that students may
encounter. Depending on the career area, the curriculum includes stair-step provisions with the
potential to complete the technical certificate program within one year. Several certificate programs
have Industry Certification built into the curriculum giving the student a nationally recognized certificate
that can be used throughout the country. Once a student has obtained a technical certificate they
have accumulated half of the credits needed for an Associate’s degree.

At the Wisconsin College all classes are conducted on the main campus so that as a faculty
member stated, “students feel like they fit in”. GED students are required to develop a personal
education plan which is reviewed monthly to map their progress. GED instructors keep students
aware of the career and technical programs offered, and Student Services staff offers career
awareness workshops and discussion on campus. There is a special summer bootcamp for students
with their GED certificate. Here students are able to get additional tutoring and mentoring in weak
subject areas, as well as workshops to prepare them for success as first-time college students. These
actions appear to have a relationship to Tinto’s principles, as the theory asserts that institutions should
commit to long-term program development, as well as placing ownership for institutional change in the
hands of those who have to implement that change.

In the area of support, Tinto’s Theory on Retention finds that students need to receive
adequate and ongoing support from the institution in all areas (financial aid, academic, counseling,
tutoring, study groups) for their continuation and their success. Additionally, providing academic
support that is directly related to a specific class is most often helpful for key first-year ‘gateway’
courses that are foundational to coursework that follows in subsequent years (2006). From the
responses to interview question seven, which inquired on the support services available at each
college, administrators and faculty members appear to agree that support is another area that had a
major influence on students remaining in and completing the technical training programs at the
college. While each college offered all students a wide-range of support through academic and
student services, two of the colleges provided additional support for GED students; one with dedicated
class/program instructors (Illinois and Wisconsin), and the other involved a staff member performing the duties of a transition coordinator. In Illinois, the transition coordinator’s position was held by someone who previously worked on the main campus, and was very familiar with the colleges’ policies, procedures, and practices. This individual played a key role in assisting students resolve school-type issues or challenges they faced, and was also knowledgeable of outside agencies and resources available to the students. This type of support was very beneficial in helping students in the program navigate through a system they were unfamiliar with, as many were first-generation college students of Hispanic/Latino descent. In Wisconsin, the position is that of an Internship coordinator who works with businesses to expand the internship opportunities with local and regional businesses and industries. As the position was newly created at the time of the interview, the duties and responsibilities were still being worked out, but the administrator felt the position was one that would provide additional exposure to the working relationship between the school and the area businesses.

**Astin’s Theory of Involvement**

Similar to Tinto’s Theory on Retention, Astin’s Theory of Involvement proposes that institutional policies and practices should foster involvement of the student in the environment. Astin’s theory also notes that vocational and occupational programs have higher retention rates due to their abilities to generate powerful peer bonds among student participants. Many of the administrators and faculty member’s responses that were applicable to the Tinto’s Theory on Retention also apply to the Astin’s Theory of Involvement. The areas of policies and practices, advising/counsel/mentoring, curriculum, and faculty-student interaction also ranked as major influences. A new area of focus that appears to have a major influence on support is that of the local and regional business community. While much has been documented on academic and institutional support, the research appears to show that business support can have an impact of student involvement. All three colleges have developed a reciprocal working and learning environment with area businesses and business leaders. This type of support is one that provides colleges with modern equipment, internships, and other opportunities which in turn contribute to students gaining work experience and job skills that are relevant to the current job market. The technical training being completed within a short timeframe also provides a career path for advancement with additional training and education. Businesses are
gaining valuable employees, many of who gained training within the company, and can start work with minimum assistance. Businesses are also providing the schools with current, relevant curriculum, course content, and in several instances instructors to teach specialized job skills. Current literature continues to identify new joint initiatives and programs between business industries and local community colleges for technical certificate programs that help to fill positions requiring specialized job skills.

**Summary of administrator and faculty responses to Guiding Question Three**

Guiding Question Three and the ten associated interview questions were asked to elicit insight from the program administrators and faculty members teaching certificate classes on the program attributes that assist GED student in completing the technical training program. From their responses it appears that several components of Astin’s Theory of Involvement and Tinto’s Theory on Retention had a significant relationship to the research findings. These two theories share similar factors and descriptors, which demonstrated that relationship. Under both theories program and colleges policies, curriculum, faculty/administration/student interaction, and support played a major role on student’s involvement in their classwork and in completing the program. Business support was recognized as having a major impact on the marketability of the certificate program. All three colleges recognized the value and importance of having both financially and materialistic support, as well as functional support, from local and regionally business leaders. Indiana and Wisconsin colleges were also fortunate to have major support from their state legislation, in the way of funding, and grants to continue existing certification programs and to develop new programs needed to address the state’s skill shortage in various business industries. The curriculum in each institutions program provided the technical skills and education students need to be employed in their local market, and in some programs it included industry certification. Mentoring, tutoring, and faculty dedicated to specific programs to provide assistance with class assignments in addition to assisting with GED training, was another factor that made an impact on the success of the programs. These program attributes were repeated from administrators and faculty across the three colleges as factors that attributed to students’ completing the technical training programs.
These findings appear to correspond to the student’s findings that the short timeframe for completing the programs was beneficial to their ability to obtain gainful employment that allowed for a better home life for themselves and their family. Similarly, students responded favorable to the curriculum, programs, and support provided by each institution.

**Guiding Question Four: What do GED students perceive as barriers to completion of the program?**

Guiding Question Four was addressed to the program administrators, and faculty members teaching classes in the programs, to gain insight from their perspective on challenges GED students acknowledge as barriers to completing the programs. The interview questions associated with Guiding Question Four did not illicit the responses originally intended to address the question. However, the responses from interview questions eight and nine of Guiding Question Three does address the question “what do GED students perceive as barriers to completion of the program”, and will be used in the analysis. Therefore this results in a slight deviation to the mapping of Guiding Questions to Interview Questions (Appendix E).

Administrators and faculty members involved with career and technical programs mention several barriers GED faced in completing their studies, many of which have been recognized by institutions across the country. Transportation and child care were the two mentioned most often at the Illinois and Wisconsin Colleges. Both colleges require some form of transportation to access the campus, with the Wisconsin campus being accessible only by automotive vehicle. The Illinois College is accessible by public transportation and students were able to obtain some form of assistance for public transportation.

Likewise, child care was mentioned as a major obstacle, especially for parents attending classes at night, and single parent students without family support. For some students with family support, another challenged faced comes in the form of family pressure concerning financial, work, and time commitment to their education. Initially families are encouraging and willing to provide the needed support. However as more time is spent away from the family, and students are unable to provide financial support to family income, help and support within the family becomes a challenge, and often a reason to withdraw from school. Additionally, several students dealt with cultural issues
and pressures on the value of higher education, especially at the Illinois College, where there is a large Hispanic enrollment. The time commitment to studies and class assignments, not being able to work full-time to provide income toward the family expenses, the need for child care, and in several incidences the need for transportation to and from class, were concerns that several students mentioned. As one of the faculty member stated, ‘we have to work at keeping them motivated to continue and not quit because of the stress of home, life, and job issues’. Both the Illinois and Indiana College instituted a practice to refer students needing non-academic assistance with local outside resources and agencies available to provide support in the areas of housing, utility assistance and in some instances child care. As one Illinois student stated:

“It was very challenging in the beginning; I could not do too much because I had too much on my plate. I didn’t see going back because I had no time. But the support was there to help me with the work; you want to keep going to accomplish something. I could not have continued if the program did not exist. Now I’m happy and excited about getting certified, a big achievement”.

The last barrier mentioned was that of institutional awareness among most of the first-generational students, which involves knowing how to navigate through institutional practices such as registration, financial support, computer technology (emails, learning management systems) and class scheduling. Wisconsin was the only college that provided a GED orientation session as well as a summer bootcamp for GED students before their first semester at college. In addition there were counselors and advisors available to answer specific questions and arrange for any needed follow-up appointments. At the Illinois College, all GED students meet with the transition coordinator, who works with them to answer their questions concerning the school and the programs, and make arrangements to provide references for any needed additional assistance needed, either within the college, or through outside agencies. At the Indiana College GED students are not singled out or treated any differently than a student coming in with a high school diploma. There is support available to all students through the traditional academic services and student affairs offices. This is also available to students at both the Wisconsin and Illinois College.

The three interview questions associated with Guiding Question Four addressed issues concerning the organizational structure, and program reporting and documentation concerning GED
students within the college’s career and technical program. The intent was to discover if and how
GED student successes were documented and shared at each institution. Due to an overlap in the
components between Tinto’s Theory on Retention and Astin’s Theory of Involvement, many of the
responses show a relationship to both theories. Additionally, many of the responses mirror those
given for several interview questions under Guiding Question Three. In order to avoid redundancy,
only responses not mention previously will be included in this section.

Chart 5 below provides a cumulative summary comparison of the administrator and faculty
responses to the three interview questions associated with Guiding Question Four. The responses
were summarized by keyword descriptors applicable to each theory, and are shown in total by college.
The number displayed by each descriptor represents a count of responses referencing that descriptor.
Questions scoring a four (4) or higher will be addressed in the analysis. Additionally the two
responses scoring three (3) for interview question eleven, under Astin’s Theory of Involvement, will
also be addressed in the analysis. These categories are included to show relevance of the responses
to components of both theories.
When looking at the responses and findings for Guiding Question Four, it appears that the SCCT Theory had no relationship to the interview questions. However, there was a relationship to Tinto’s Theory on Retention and Astin’s Theory of Involvement, which follows.

### Tinto’s Theory on Retention

The major factor of Tinto’s Theory on Retention relevant to the Guiding Question Four involves institutional policies and practices, class structure and curriculum programs. The response by all participants to interview question eleven, addressing how the organizational structure contributes to matriculation of GED students, are very similar and in some instances, the same as those given to several interview questions under Guiding Question Three; specifically questions concerning curriculum and programs, policies and practices, and faculty and advising. Two responses in the other category provided insight into the internal workings of the programs, from an institutional perspective,
at the Illinois and Wisconsin colleges. The Illinois administrator discussed the college’s collaborative work effort between the GED bridge program, which is administrated through Adult Education, and the Career and Technical Education department at the college. Once a student graduates from the GED program, it is hoped they continue to obtain additional stackable credentials at the college. Because the two programs are administered through two separate departments, there is a need for both to not only stay in communication with each other on various aspects of their programs, but to also offer a transition plan for the students once they have completed their GED studies and obtain a basic certificate through the bridge program. This idea is a work in progress that has not materialized, but the need has been recognized. The administrator also spoke of an effort at making the GED students feel valued and important. The GED program is housed in a new facility adjacent to the main campus, with modern equipment and dedicated full-time faculty. She felt this spoke to the students in a way of saying:

“We expect that you are going to go to college when you finish this program; we are not putting you in the basement of some old room with no resources. We are saying here, this is just the first step and the next one is to come over there, in the main building”.

The Wisconsin administrator spoke on the impact of the programs providing career pathways as a contributing factor for students’ matriculation. In the Wisconsin system the GED classes are offered within the technical college system. Having the program on campus with other students, she feels, ‘helps them flow right into technical college, so that the students get to see people in nursing, or phlebotomy; they are in the environment, instead of being separated’. The responses from both the administrators appears to support the postulate of Tinto’s theory that states the level at which the student is able to integrate and affiliate the institution’s attributes with their own will determine whether they complete the program. Both institutions have worked to provide an inclusive learning environment where GED students are made to feel a part of the community. Both administrators and faculty appear to work at keeping the students motivated toward not only completing their course of study but also in continuing to advance certificates and possibly degrees.
Astin’s Theory of Involvement

The responses and narratives mention above under Tinto’s Theory on Retention are also applicable to Astin’s Theory of Involvement. One of Astin’s Theory of Involvement basic postulates states that the effectiveness of any educational policy or practice is directly related to the capacity of the policy or practice to increase student involvement. Participation in internship programs has its strongest positive effect on self-reported growth in job skills. The findings from Interview question eleven reflects the response from administrators and faculty members on the support provided to the certificate programs by the businesses and state legislation. Recent literature continues to document the collaborative certificate training programs being developed at community colleges with the support of local and regional business industries. Such programs are providing the needed boost to local economies in addition to the tangible benefits of:

- Apprenticeship and on-the-job training opportunities for individuals who once saw little hope for their employment future
- Skilled employees for those businesses experiencing difficulty in finding qualified employees
- Increased enrollment at community colleges with students able to complete their studies in a relative short time-period, as well as possibly continuing their studies for additional certificates or degrees.

In Indiana and Wisconsin, it is mandated, by state legislation, that business leaders hold a position on community college advisory boards and committees, and have input into curriculum development.

With regards to interview questions twelve and thirteen, addressing institutional reports and sharing of program successes and lessons learned, none of the colleges had a formalized procedure in place. Indiana was the only college to mention the use of an early warning advising system that identifies the beginning of problems and issues with a student’s work. Students are then referred to their advisors for consultations to work through the issues. Tracking for the program at the Illinois College was done on an informal basis and consisted of the records maintained by the Transition Coordinator on numbers of student transactions and the nature of the interaction. At the Wisconsin
college, once a GED student enters the program they are not tracked so there is no information available. While this is not a topic addressed by the theories applicable to this research, Kuh (2006) notes that early warning systems are especially important for students who start college with certain risks, or who appear to be academically challenged. Those risks include not entering college directly from high school.

**Summary of administrator and faculty responses to Guiding Question Four**

Guiding Question Four and the three associated interview questions were asked to obtain insight from the program administrators and faculty members on identifying what GED students perceive as barriers to completing their programs. They were also asked to address institutional structures, system reports and sharing of lessons learned regarding GED students enrolled in their college’s career and technical education programs.

From the findings it appears that a relationship exists between Astin’s Theory of Involvement and Tinto’s Theory on Retention with reference to policies and practices under the institutional category. Many of the findings share similarity to the responses given in Guiding Question Three, especially in the areas of college policies, curriculum, and faculty/administration/student interaction. However additional insight was provided on the effort taken at the Illinois college, between departments and programs, to ensure that each program, while similar in concept, works for their respective target audience. The findings also revealed the need for better institutional reporting on GED student’s progress and success, as there was no formalized procedure in place to provide this type of information. For example, none of the three colleges had an institutional process for sharing program information, lessons learned, or student success.

**Emergent Themes**

The application of a cross-case analysis for this research has shown similarities and differences between the three colleges as they relate to the *a priori* themes of the conceptual framework theories. From this research the following three emergent themes were identified:

- the educational background of the family of GED students
- the support of businesses and business leaders in the policies and practices of certificate programs at local community colleges
Family educational background

Interview question three, of Guiding Question One, focused on the educational background of the GED student’s family members, specifically asking if any family member had attended or graduated from a postsecondary institution. The general populist belief is that students with GED certificates come from a background where education has little to no value, few family members have either attended or completed high school, and even fewer have attempted, attended or completed college. The findings from this research appears to be contrary to this belief, as six of the ten students report education was an important component of their family life, and that several family members had attended, was attending, or had completed a college education. The following are two interesting responses: a male Hispanic student at the Illinois College told of his older brother who attended a university to become a lawyer, and a younger sister pursing a nursing career. While he recognized their accomplished, he stated “they are not looking at certificate programs, they are looking to get a degree”. He goes on to tell of his helping a younger brother, currently enrolled in an ELS program, with his math assignments, and how his brother can get into the same GED program for a certificate.

The second response was from a black female student at the Indiana College; both parents were college graduates, and her mother was a teacher. Education was very important during her upbringing. She attended private school until a family crisis caused her to transfer to a public high school. Coming into an environment where there was no structure or discipline, where she was not challenged, pushed, or recognized, she became bored and began to associate with the wrong group of students, eventually dropping out. Now a single parent with three children she stresses the importance of education to her children, She says that “without an education you will end up settling for less or you going to be back in the old days like when they were picking cotton to make a dollar”.

From these two findings and several other responses, it appears the educational background of students with GED certificates mirrors that of high school graduates. This is confirmed by a 2011 report by National Center for Education Statistics, Characteristics of GED Recipients in High Schools: 2002 – 06 which shows that 25.4 percent of high school graduates had parents that attended high school or less, versus 32.2 percent of those with a GED certificate; and that 34.3 percent of high
school graduates had parents who attended some college, versus 40.5 percent of GED recipients
parents. According to these statistics, a higher percentage of GED recipients parent’s attended some
form of postsecondary education than those of high school graduates.

**Business support**

Findings from Guiding Question Three and Four revealed a support theme not identified or
recognized by the conceptual framework theories. Both Astin’s Theory of Involvement and Tinto’s
Theory on Retention focuses on the importance of support from family, administration faculty and even
among fellow students. With the current increase in career and technical education certificate
programs and initiatives at community colleges throughout the country, business support and
involvement has emerged as a dominate factor in students completing their programs. Community
businesses and their leaders are providing direct input into the program’s structure, implementation,
curriculum development, course content, and in some instances actual classroom instructions. As
members of local community college technical program advisory boards and committees, they bring
the expertise and experience needed to blend course concepts with application that is current and
relevant in today’s job market. In Indiana and Wisconsin, the advisory boards and committees have
authority to provide input into the structure and curriculum of relevant courses. They also provide the
most up-to-date equipment to the colleges to ensure that student training will be similar to the work
environment. The finding from the two colleges, reveal this type of involvement appears to be a major
influence in attracting and retaining students to complete their studies. Current literature continues to
identify joint initiatives and certificate programs between various business industries and local
community colleges, which appear to be paving the way for individuals, previously un-served by higher
educational institutions, to obtain some form of postsecondary education.

**Data Tracking and Reporting**

Interview questions twelve and thirteen of Guiding Question Four focused on institutional
tracking and reporting of programs successes and lessons learned concerning GED students. From
each of the colleges the response was there was no comprehensive procedure in place for capturing
this type of data. Each college had some form of informal reports that were mostly ad-hoc, taken from
whatever information was available. While each college recognized the need for and importance of such data, it was an issue that was work in progress.

Current and relevant data on GED student’s success in postsecondary educational endeavors is very limited and dated. The sharing of lessons learned and program strategies, successful and not successful, can have a major influence on the development of future training initiatives, and the refinement of current programs. Having colleges tracking and reporting on lessons learned, programs strategies that have demonstrated continual success, and the stories of the students who have achieved a postsecondary certificate, diploma, or degree, would not only provide pertinent information on the subject, it would also provide accountability to the effectiveness of the programs and the college.

Summary

This chapter revealed the findings derived from the data and information collected from the students, program administrators, and faculty members at the Illinois, Indiana and Wisconsin colleges. Data from the demographic surveys, document review, and participant’s responses to the interview questions, were presented in a side-by-side table format to allow for comparison within and across each institution.

The chapter begins with a cross-case comparison of the demographic information from the participants. The purpose of this information was to reveal similarities, differences, and any patterns that might exist across the three colleges. Student, administrators, and faculty responses were categorized, and tallied, using the a priori themes of the framework theories of the Social Cognitive Career Theory (SCCT), Astin’s Theory of Involvement, and Tinto’s Theory on Retention. From the theories the following keyword descriptors were developed:

- SCCT: self-efficacy: outcome expectations, goals
- Tinto’s Theory on Retention: support, institutional factors, goals
- Astin’s Theory of Involvement: self-Involvement, institutional factors.

The responses were tallied across colleges, and the aggregate total displayed in a chart by Guiding Questions. Each Guiding Question’s chart was followed by a narrative that compared the finding’s similarities and difference between college, and the against the principal tenets of the three
framework theories. From the findings relationship were presented between the theories and the responses as well as between theories. Lastly, the following two emergent themes were recognized: 1) contrary to the populous belief that GED students come from backgrounds where education was not valued, six of the ten students interviewed (60 percent) of the participants had a rich educational background, and 2) while family and institutional support has been recognized as components of student success, business and government support has become an dominate factor in the success of career and certificate training programs.
Chapter 6 – Discussion, Conclusions, Implications and Recommendations

Introduction

“There is no chance, no destiny, no fate that can circumvent, or hinder or control the firm resolve of a determined soul.” Ella Wheeler Wilcox

This multi-case qualitative study of three Midwest Community Colleges investigated factors that influenced students with GED credentials to complete, and matriculate to career and technical education certification programs in community colleges. The participants, who consist of students, program administrators, and program faculty members, provided insightful data and meaningful perspectives that contributed to the findings and outcomes of the research. The structure for this chapter consist of the following: a) introduction and overview of Chapters 1 through 5, b) purpose of the study by the four Guiding Questions, c) discussion, d) conclusions, e) implications and recommendations, f) recommendations for further research, and g) introduction of the Rayborn’s Model for GED Success in career and technical certification training.

Chapter 1 provided an introduction to the purpose of the study, addressed the background and context on the problems, issues, and concerns. An initial discussion on the conceptual framework was introduced in addition to the research methodology and data collection.

Chapter 2 started with a historical overview of community colleges, and the GED program. A review of literature on GED, and career and technical education programs in community colleges was given. Additionally an overview of career and technical education programs in three Midwestern Community College Systems was presented. The conceptual framework theories, upon which the research was based, were identified: The Social Cognitive Career Model, Astin’s Theory of Involvement, and Tinto’s Theory on Retention.

Chapter 3 provided information on the research method for the study, a qualitative, multiple-case methodology that allowed for the use of an interpretive paradigm. Using this methodology allowed the participants to provide responses to the interview questions from their perspective. The data collection criteria and procedure was described in detail. The data analysis process was outlined which included the visual representation of the information displayed in a table format. A discussion of the study’s validity, reliability, limitations, research bias, and ethical consideration were provided.
Chapter 4 described, in detail, the timeline of the research, starting with the contact protocol implemented at each college. Detail findings from the demographics surveys, and interview responses of each student, administrator, and faculty were provided, by college, in table format.

Chapter 5 continued the analysis of the data, providing a detail examination of the commonalities and differences across the three colleges. Additionally, the findings from each Guiding Question were analyzed through the lenses of the conceptual framework’s a priori theme, from which patterns and emergent themes were discovered, and discussed.

Purpose of the Study

The overall purpose of this study was to identify influencing factors that contribute to GED students completing their studies and matriculating to career and technical certificate programs in community colleges. Since its inception after World War II, the GED program has proved to be a valuable educational alternative for millions of Americans who withdrew from high school, prior to graduation. Still, achieving this milestone alone has not always proven beneficial for the recipients. Literature, studies, and research has shown that these individuals are often stuck in dead-end, minimum and sub-minimum wage jobs, with no potential for advancement.

The following Guiding Questions were used to elicit information from the students, administrators, and faculty members. In obtaining information from the viewpoint of actual GED students, it is the researcher intent to add to the limited data currently available on the subject.

- Guiding Question 1: What are the intrinsic factors that influence GED student’s decision to complete career and technical certificate programs in community colleges?
- Guiding Question 2: What are the extrinsic factors that influence GED student’s decision to complete career and technical certificate programs in community colleges?
- Guiding Question 3: What are the program attributes that motivate GED students to complete the technical training programs?
- Guiding Question 4: What do GED students perceive as barriers to completion of the program?
Discussion

While obtaining a GED certificate does not guarantee the recipient a better outlook on employment opportunities, it does offer an option to take their educational journey to the next level. Community colleges throughout the country appear to be embracing the challenges of providing some form of postsecondary education to individuals in GED programs. Recent literature has reported numerous initiatives and programs designed to change the way adult education is delivered; from basic adult education, to incorporating basic skills with practical occupational training. Through the collaborative efforts of educational organizations, community colleges, philanthropy groups, and business and industry organizations, new career and technical education programs have been implemented that defines the skill requirements of an industry, develops educational strategies to address the immediate and long-term training needs, and prepares workers with the job skills needed for today's labor force. These educational programs are giving previously unemployed individuals an opportunity for future employment, and to continue and advance their educational endeavors, should they so desire.

Business and industry communities have begun to recognize the value local community colleges bring in providing both career and technical training and teaching general competencies. Through programs that integrate academic and technical content with employable skills, students are able to connect the classroom concepts to real-life job experience. Upon completing these programs students walk away with postsecondary certificates, licenses, and in some instances, industry certifications. Anthony Carnevale, Executive Director of Georgetown's Center on Education and the Workforce sums up this relationship best:

"Community colleges are ideally situated to provide, practical career, and technical preparation, as well as general learning. The mix of general academic learning and workforce preparation that is the unique signature of the nation's community colleges can lead to both further education and learning on the job. Moreover, the community colleges' mix of general competencies and workforce development allows students to live more fully in their time by becoming more active citizens and successful workers."
This study investigated the career and technical education programs at three Midwestern colleges; Illinois, Wisconsin, and Indiana. Students in a program with a GED certificates, or who would soon complete their GED studies, were interviewed and asked to provide insight into the factors, both intrinsic and extrinsic, that motivated and drove them to complete their certificate program. Program administrators, and dedicated faculty members were asked to provide their perspective on motivating factors, including institutional, and certificate program attributes.

The students openly discussed their journey and the challenges they faced not having a high school diploma. For most of them it was those very challenges that prompted them to return to school to not only finish their GED studies, but also work towards obtaining a certificate. A majority of the students stated the most intrinsic motivating factor for their return, and completion, was that of wanting to have a feeling of accomplishment and value; they wanted to prove to themselves, their children, family and friends that they could achieve a major goal of finishing their education. Having succeeded in that endeavor, most of the students talked about wanting to continue their education to obtain advanced certificates and even postsecondary degrees.

Student's involvement in their studies, and the certificate program itself, were the major extrinsic factors attributed to their completion. Cohort based programs provided a support environment students felt was beneficial to them. They were among peers facing similar challenges and working towards the same goals. Having dedicated faculty shadowing them in class provided clarity and application of the concepts to the lessons, as well as tutoring and assistance when needed. Nearly every student acknowledged the benefits the program provided in terms of internships, and apprenticeship opportunities. This aligns with the responses of program administrators and faculty members who provided insight into the strategic training efforts facilitated between the colleges and business leaders in developing, and implementing certificate programs that integrated basic skills with practical occupational training.

Both program administrators and faculty members discussed the policies and practices of the certificate programs and the level of involvement of various business leaders concerning the programs curriculum, and course delivery. In Wisconsin and Indiana, the college’s advisory boards, which include many of the local and regional business leaders, have the autonomy to revise, discontinue,
and/or replace courses as deemed necessary, with the exception of state approved/regulated courses. It is their responsibility to ensure that the curriculum is current, the content is relevant to the skills required in the current work environment, and the teachers are competent and able to teach.

As a result of these collaborative arrangements, the colleges have benefitted with new equipment, and current technology for their classroom lab. This contributes to the student’s gaining job skills, and experience, while increasing the confidence they need to secure employment within the local and regional businesses. It also appears to be the motivation needed to continue their education, as many programs have incorporated career pathways that can lead to stackable credential, industry specific certification, or postsecondary degrees.

Additionally, both Wisconsin and Indiana technical college system receives major support from state legislation, in the form of career and technical education funding grants. This funding is provided to assist community colleges with initiatives to address the training, and educational needs of various industries within a specific region of the state.

Current literature continues to highlight career and technical education programs that have successfully networked community colleges with various workforce development organizations, businesses, governmental agencies, and philanthropy groups. In each program, it is the community college that serves as the central component to administer the general learning and the technical training. While many community colleges throughout the country are involved in new programs and initiatives, given the current unemployment rate, and unfilled job positions in many industries, there appears to be room for more programs, and room for more improvements.

**Conclusions**

According to the 2010 census report, 39 million adults in the United States, aged 16 and older lack a high school credential, and are not enrolled in any educational program. Without those credentials, these individuals experience difficulty in finding, obtaining, and keeping jobs that allow them to earn a decent wage. On the other side of this dilemma are millions of unfilled job openings in the United States due in part to employer’s inability to find skilled workers to perform the jobs. How can these issues be resolved? What steps can we, as educational agents, take to address these issues?
Community colleges and private business industries must form partnerships to provide the career and technical education needed to address the changing needs of today’s workforce. Community colleges throughout the country have formed such partnerships that integrate GED studies in adult education, with the technical skills training needed for jobs within their region. These programs have successfully moved individuals from the ranks of the unemployed or unemployable, to those of skilled, full-time employees.

This research looked at ten students with GED credentials, enrolled in career and technical education programs at three Midwest community colleges to determine the distinctive intrinsic and extrinsic elements of influence motivating them to complete their studies. Additionally, four program administrators, and four faculty members, from the same three community colleges, were interviewed to provide insight into the institutional policies and practices that has also helped students in completing their studies. Administrators and faculty members also provided their perspective on challenges, influences, and motivating factors they had seen GED students in the program faced, and overcame.

**Conclusion from student findings**

Students with GED credentials in postsecondary education programs are usually older adults who have experienced difficulty in maintaining gainful employment. Enrolling in short-term certificate programs gave them an opportunity to learn new skills while gaining the experience needed to secure employment in their community. This research finding highlights the importance of GED student’s belief in their abilities to succeed, the need to accomplish their goals for themselves, their family, and friends, their attitudes on overcome challenges and problems, and their persistence and commitment to completing the certificate program. Committed to their goals and aspirations, they look for short-terms programs that offer relevant curriculum to pursue a certificate in a field of their interest.

Many felt obtaining the first certificate, along with their internship training and previous work experience enhanced their leverage to obtaining gainful employment. Institutions providing dedicated support through policies and practices, staff members, and faculty strengthen the students’ confidence in their abilities while also providing skills, and job experience, in a career that will change their life. The resolve and determination of these students remind me of a quote from Nelson Mandala which
says “Once a person is determined to help themselves, there is nothing that can stop them”. The students interviewed for this research were very determined in their endeavors, and it was their life experiences that fueled their determination.

**Conclusion from administrators and faculty findings**

Administrators and faculty members highlighted the features and components of the technical certificate programs that many of the students mentioned as favorable and motivating; short-term classes, dedicated faculty, tutoring and mentoring sessions, relevant curriculum and support from their peers and instructors. Faculty members, working on a daily basis with the students, provided the needed hands-on support not only with class assignments, but also the emotional support and encouragement needed when students faced various life challenges and obstacles. They felt ‘vested’ in the student for the duration of the program.

A significant finding was the business support received at the two technical college systems. With business stakeholders having a responsibility and obligation to insure the relevance, accuracy and integrity of the course curriculum and instruction, community colleges are able to implement and support new programs and initiatives in their communities. Funding support for such programs have been infused with contributions and resources from the businesses themselves, various philanthropy groups and state legislation.

The questions were asked earlier, how can these issues be resolved? What steps can we, as educational agents, take to address these issues? With the present White House Administration’s focus and emphasis on a community colleges education for everyone, with more philanthropy initiatives involved with programs that addresses closing the gap for unskilled, under-educated individuals, and with more community colleges and businesses becoming stakeholders in developing programs that address the issue of unemployment in local communities, these questions will be answered in a way that best serves the needs of everyone.
Implications and Recommendations

The following implications are attributed to the research findings from the guiding questions. Recommendations for practice in the community college system will follow each implication listed.

Guiding Question 1: What are the intrinsic factors that influence GED student’s decision to complete the career certificate programs in community colleges?

Implication

The research finding shows a common theme among GED students is their determination to complete their formal education, and to continue to accomplish some form of a postsecondary education. Research has shown that students gain a sense of competency and autonomy as they continue in their studies. Self-efficacy, the belief in their capacity to perform whatever is necessary to accomplish their goals is, in itself, their intrinsic motivation. It is suggested that community colleges consider ways to create an environment that fosters and enhances a student’s confidence in themselves and their abilities.

Recommendation for practice:

GED programs in community colleges could capitalize on the use of career assessment tools to assist students determine their career potential and strategies:

- Administer career assessment tools that identify student’s areas of interest, strength, and those needing improvements. Develop individual career plan that outlines short-term and long-term goals, as well as a timeline that highlights milestones, and accomplishments. Incorporate the use of certificates to provide a starting point in reaching some of the short-term goals.

- Offer career fairs with business leaders from local and regional businesses furnishing information on the industry, potential positions, educational requirements, advancement within the industry, and other information that will set the student’s expectations with a realistic view of the career choice.

- Provide career counseling, so students are able to discuss their assessment results, career plans, goals, and factors of support and self-efficacy with an advisor who can provide a realistic outlook on the student’s plans. The counselor should be able to
assist students identify their motivating factors, address questions concerning institutional support, both academic and non-academic, all aspects of the certificate programs, and the college’s working relationships with local businesses. Students should walk away from this session with a clear idea of what it will take to accomplish their career in their chosen field.

**Guiding Question 2: What are the extrinsic factors that influence GED student’s decision to complete the career certificate programs in community colleges?**

**Implication**

While career-choice goals and actions may be influenced by self-efficacy and outcome expectations, there are times when real-world circumstances can change an individual’s direction which could cause a compromise in their efforts to complete their goals. The research finding implicates several extrinsic factors of support influenced and motivated students to persevere to completion.

**Recommendation for practice:**

Institutional support covers several facets that can be incorporated into GED programs at community colleges. The following are three strategies that the findings show as favorable for student completion:

- Offer a boot-camp program to students with GED certificate that are enrolled in certificate programs for the upcoming school year. This could also include students in bridge or other initiative programs. Provide mandatory workshops on campus life, components of student success, time management, study habits, and other topics that will give the students a realistic view of the college environment. Offer refresher classes for students to review math and English skills. Incorporate student assessments, individual career planning, and counseling session as outlined above. This would be an excellent opportunity for current GED students in the program, or graduates from the program to provide insight into the benefits they have received, and the challenges they faced.
• Structure C&TE programs in cohort environments, by area of study, to provide a sense of community and support for participants in a common learning environment. As these are short-term programs, students will come to support one another in their academic studies, cognitive development, and emotional wellbeing.

• Provide dedicated staff and faculty to the success of the student to develop a feeling of trust between the students and the institution:
  ▪ An administrative transitional coordinator position as a point of contact to interact with students dealing with institutional questions or inquiring on unfamiliar issues or problems. This position would be pivotal in assisting students to navigate through the college policies and practices, and campus life. This position would require extensive knowledge on the workings of the institution, policies and practices, and how to get problems/issues resolved, as well as knowledge on non-academic, community related resources that would be available to students dealing with personal or family concerns.
  ▪ Dedicated faculty members who provide would shadow students in their technical classes, provide contextualized training within the GED program to promote the connection between course theory and practical application, and assist with assignments in those classes. Additionally the faculty member would be responsible for mentoring and tutoring sessions as needed. The faculty-student interactions, as well as the student-student interaction, are important factors that provided support on a more personal level for the students.
Guiding Question 3: What are the program attributes that motivate GED students to complete the technical training programs?

Implication:

The support institutions received from businesses, and from state legislation, are major contributing factors to the quality of career and technical education programs offered in community colleges. Business involvement in career and technical education programs help to infuse relevant and robust content into the curriculum. Community colleges should consider forming advisory partnerships with local and regional business to facilitate stronger certificate programs.

Recommendation for practice:

Institutional support covers several facets that can be incorporated into GED programs at community colleges. The following are four strategies that the findings show as favorable attributes motivating students to complete the program:

- Institute policies and practices to place local/regional business leaders on program advisory boards, committees, and were applicable as adjunct professors in the classrooms. As stakeholders, these individuals would have authority to recommend curriculum creation, revision, and where needed, elimination relevant to their area of expertise. The experience and knowledge provided will ensure the skills and content being taught are relevant to the employment needs in the business community.

- Incorporate best practices from national and regional career and technical education programs and initiatives. Major accomplishments have been documented from such programs as I-BEST, Shifting Gears, Achieving the Dream. The Federal government, through the Department of Education, and the Department of Labor, are involved in several initiatives with major philanthropy organizations and community colleges throughout the country. Obtaining reports, holding discussions and attending conferences will provide pertinent data concerning the various aspects of each initiative.

- Funding support is crucial for programs sustainability. Community colleges, either directly or through higher education commissions and organizations, must work with
state and local agencies, and lawmakers, to secure financial funding for such training initiatives. Additionally, community colleges must work to secure funding directly through grants and national programs initiatives that align to the mission and goals of the career and technical education programs offered. This may require a dedicated administrative position responsible for researching current and future initiatives and opportunities.

- Community colleges must ensure that programs offer a pathway for advancement, in the chosen field, which aligns to a degree, stackable credentials that can lead to industry certification, or portable credits that are transferrable to other institutions. Most students understand that the certificate received will provide an opportunity to a new career, but additional training and education will be required to advance. In most instances obtaining the first certificate has given students enough credits to only need an additional year of study to earn an Associate’s degree, or a shorter time span to advance to the next level certificate.

Guiding Question 4: What do GED students perceive as barriers to completion of the program?

Implication

It is assumed that GED students have difficulties and challenges that are unique, and that they are not serious, or focus on completing their education. The findings from this research suggest just the opposite to be true; GED students face the same barriers as all students, and for most of them, completing their education is their top priority. In order to document student progress and accomplishments, community colleges would do well to establish an institutional reporting, tracking, and documentation of program procedures, student successes and lessons learned.

Recommendations for practice:

- Community college could spearhead a committee, as a collaborative effort between local human services agencies, community resource organizations, local businesses, and other such groups, to research solutions addressing students concerns regarding transportation, and child care. Possible solutions could include van pools that provide transportation, to and from an accessible location, to the campus for a reduced fare.
This type of practice would benefit not only GED students, but all students faced with transportation issues. Additionally by providing childcare program on campus, possibly using students in educational development classes as assistants and interns, would also address a major concern with single-parent families. While such practices would require extensive research and commitment from all parties involved, the reward of addressing the two major challenges would benefit all parties involved.

- Providing institutional reports on program results and student’s progress are necessary components needed to recognize the success of any program, and to document accountability. These reports would provide valuable insight to the limited data currently available on GED success. Furthermore, it is important for tracking student progress throughout their program tenure. Implement an early warning notice system that provides alerts to advisors, mentors, and faculty members’ when students start to show signs going off track will add another level of support. These could include such areas as pattern of absences, failing grades, missing assignments, or other concerns that, if addressed early enough, could be resolved without students leaving the program.

- As institutional support has been recognized as being a major influence in successful certificate programs, it takes trained faculty and staff members to provide that support. Professional development and training opportunities should be incorporated into program’s practice for administrators, faculty and dedicated staff members. By having these individuals attend seminars, workshops, and conferences that address such areas as student success, student motivation, and other topics concerning students with challenging educational backgrounds, the colleges are investing in their employees and in the success of the certificate programs.

**Recommendation for Future Research**

Community colleges play a dominate role in providing services to students who are working to earn their GED award. While these students are assumed to have more problems, challenges, and issues than the typical college student, they share in wanting to reach the same goal, a postsecondary
education. This research explored factors that led students with GED certificates to complete their GED studies and complete a career and technical certificate program in a community college. To help fill the void in research and literature on this topic, the following three areas should be considered for further studies and research:

1. To enrich the data gather from this research, perform followup interviews with the participants. The purpose would be to capture information on how the certificate has impacted their life, their employment opportunities, and to inquire on the pursuit of their long-term goals. Follow up interviews with administrators and faculty will provide insight into changes made to the program, institutional practices, and areas of improvement identified in the original research.

2. Eight of the ten participants of this research were single females with at least one having a dependent child. Yet GED statistics show the majority of testers are male. To expand this research conduct a future study on factors of motivation based on gender, marital status, and/or dependents in order to gather a broader perspective on the challenges GED students face, and overcome to continue their education.

3. The target audience of this research was students, administrators, and faculty at three community colleges in the Midwest states of Illinois, Indiana and Wisconsin. Expanding this study to compare community colleges on a regional basis, South, East, and West, would allow for analysis showing possible influences by geographic location. As community colleges throughout the country have implemented career and technical education programs and initiatives research by regions, would assist in providing valuable information and literature to a subject where such information is lacking.
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The Rayborn’s GED to Career Technical Education (CTE) Model

The findings from this research will be of interest to institutions, organizations, advocacy groups and workforce development agencies whose mission involves influencing students beyond their GED credentials. The study’s findings revealed underlying components and practices of several effective and successful career and technical education programs in community colleges. While each program has led to the matriculation of many GED students from a certificate program, integrating key components from each program into one model will enhance and augment current adult education programs, and certificate training programs. Additionally it will provide a firmer foundation for new educational initiatives involving under-educated, low-skilled individuals. The Rayborn GED to CTE model is comprised of four elements:

1. Student preparation
2. Institutional support
3. Business support
4. Funding.

Each element has several integral factors that will provide the support needed for the success of the program. While each elements stands as support for the program, it is very necessary for there to be support among and between each element.

**Student preparation**

Many GED students are returning to school after being away from the classroom for many years. In the beginning they will need considerable support to alleviate the anxiety, and fears they face of not being smart enough, or of being too old to learn. In the Rayborn Model, the program would be open to individuals who currently have their GED credentials, or those who are within 3 to 4 months of testing. Students would be required to attend a boot-camp session that will include classes and workshop dealing with topics on student success as well as take assessments on career interest, math and English skills. The session would be conducted by the programs’ administrators, staff, and faculty members.

A skills and competency assessment in math and English would be administered from which students and advisors would be able to determine the level of tutoring and mentoring required for each
student. Additionally a career aptitude assessment would be given, to determine each individual’s potential career selections and areas of interest. Workshops on various aspects of life on campus would be presented. Students would also attend a career fair, where the businesses associated with the programs would provide information about career potential, employment opportunities, skill and education requirements, and answer questions concerning that business and industry. Before the end of the camp, students would meet with their assigned advisor to have a ‘keep it real’ session, where the students would establish their individual development plan, set their expectations, develop their short-term and long-term goals, and map out the courses and classes needed to complete the program. Upon completion of the plan and start of classes, students would be required to schedule regular follow-up sessions with their advisor.

Providing this level of support, from the onset, should help in relieving the apprehension and nervousness most GED students feel upon returning to school. Working with their advisor should begin to create a relationship of trust between the students, faculty, and staff personnel. Students should begin to feel confident about their future, and motivated by the plans they established to help them achieve their goals.

Institutional Support

It has been recognized, through theories and current literature, that community colleges are the institution of choice for adults returning to college. For students returning with GED credentials, many of whom are first generation college students, the environment is challenging, overwhelming, and perceived to be difficult and uninviting. Considering this, community colleges will need to create a supportive, nurturing, and thriving environment to help build students confidence in themselves and their abilities. This can be accomplished through, college practices, policies and procedures, curriculum, and dedicated faculty.

One of the emergent themes from the research findings was the importance of business support and involvement in community college’s certificate programs. The Rayborn Model of GED to CTE would include the practice, and policy of requiring business involvement on advisory boards, committees, and as instructors or co-instructors of programs. Business leaders and owners holding such positions will bring contextualized knowledge, skills and applicable experience to the programs. It
also adds accountability and sustainability to the program and to the community. Through policy changes that embrace stakeholders input into program curriculum and course content, and where state law permits, the advisory committees would have the responsibility and authority to create, revise, and discontinue curriculum, and course content that is no longer relevant to current labor market. Local businesses will become stakeholders in ensuring the relevance, and accuracy of the curriculum presented in the classrooms.

Each committee and board would also include faculty, staff, and senior college administrator to ensure that all responsibilities are addressed. Community colleges and businesses will forge a relationship that provides the education and experience students need to obtain gainful employment, while also providing businesses with trained, experienced employees, many of whom worked as apprentices in the company. The community is strengthened with thriving businesses and productive citizens, and the local community college has infused new educational opportunities to individuals looking to improve their living conditions.

Each certificate program would be a short-term, nine months to one year program, structured in a cohort environment, thereby creating a community of support and trust among the students, staff, and faculty. Dedicated faculty would shadow students in classes outside of their GED studies, and would be responsible for providing contextual application of class assignments to applicable GED subjects. They would also be responsible for tutoring or working with tutoring groups, to provide any additional assistance student would require.

The Rayborn Model also includes a staff position of transitional coordinator to perform duties relating to institutional support and employment support. This position would be filled by a person very knowledgeable of the campus, various administrative functions, campus procedures, and have an all-around knowledge on the workings of the institution as well as non-academic resources students may have need of. The person in the position would be the go-to contact for any academic issue, problem, or concern a student in the program may face.

**Business support**

Along with serving on college advisory boards, committees, and as faculty instructors, business leaders will bring accountability to the certificate programs being offered, by working with
administrators, faculty, and staff members to establish accountability standards and developing evaluation matrices for measuring the success of each certificate program. These evaluations will be used to produce reports on the programs progress, best practices, and lessons learned.

Business support would also include business sponsorship in the form of internships, apprenticeships, scholarships, and fund-raising. Securing the latest equipment, tools, and technology for the labs and classrooms will benefit the programs and the college, while demonstrating a commitment to providing jobs opportunities to individuals working to better their lives.

**Funding Support**

Rayborn GED to CTE programs will require funding input from a variety of entities, and organizations. College administrators and business leaders, working collaboratively, will develop and implement strategic plans to secure funding through workforce development agencies and programs, state legislators, philanthropy groups, government agencies and various certificate education programs funding initiatives and grants.

While each element of the model has specific components of responsibility, inter-action and collaboration between each element is very necessary for a rewarding and influential program. Working together to develop, and implement strategic plans that address the areas outlined above will establish a program model that has roles, responsibilities, and action plans needed to ensure the success of any career and technical training program. As students successfully matriculate through the program they are now confident in their abilities, new job skills, and experiences. They begin to see the advantages education can provides to their future. They now have a stepping-stone upon which they can pursue their dreams through additional certificates, industry certification, or possibly a college degree. Greg Cappelli, Director and Chief Executive Officer of Apollo group Inc., captures the essence of the Rayborn GED to CTE Model in the following quote:

“The American workforce is missing the education it needs to compete in a global economy. Education, jobs, and the American dream are inextricably tied together. As a country we have an interest in finding actionable solutions to closing the skills gap, developing a national strategy for investing in human capital, and holding on to our talent”.

(pg. 8)
In career and technical certificate programs were the above elements were incorporated students entering the programs with GED credentials, or who were actively working towards their GED credential along with a certificate, were able to matriculate across the bridge. Their CTE certificate provides new employment opportunities, a feeling of confidence in themselves, their accomplishments, and their abilities to face and overcome difficult life challenges.
References


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Office of Vocational and Adult Education. (2010). *Postsecondary Education Transition: Summary of the findings from two literature reviews*. Retrieved from https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/transition.html


Appendices

Appendix A: Consent Form – Program Administrator and Faculty

Thank you for agreeing to participate in this study that will take place from October 2012 through March 2013. This form outlines the purposes of the study and provides a description of your involvement and rights as a participant.

I consent to participate in a research project conducted by Irma Rayborn, a doctoral student at National-Louis University located in Chicago, Illinois. I understand the study is entitled “EXPLORING FACTORS THAT ATTRIBUTE TO THE MATRICULATION OF GED STUDENT TO CAREER AND TECHNICAL EDUCATION CERTIFICATE PROGRAMS IN COMMUNITY COLLEGES. The purpose of this study is to identify those factors which motivate individuals with GED certificates to complete career and technical certificate programs.

I understand that my participation will consist of completing a survey which will be used to collect data in the form of participants’ response to each question/statement. I understand that I may be selected to participant in a focus group session which may be audio-recorded lasting 60 to 90 minutes with a possible second, follow-up interview lasting approximately 60 to 90 minutes. I understand that I will receive a copy of my transcribed interview at which time I may clarify information. I understand that my participation is voluntary and can be discontinued at any time until the completion of the dissertation. I understand that my anonymity will be maintained and the information I provide confidential.

I understand that only the researcher, Irma Rayborn, will have access to a secured file cabinet in which will be kept all transcripts, audio recordings, documents and field notes from the interview(s) in which I participated.

I understand there are no anticipated risks or benefits to the participants any greater than that encountered on a daily basis. Further, the information gained from this study could be used to assist in the development of future career and technical certificate training programs for GED students.

I understand that in the event I have questions or require additional information I may contact the researcher: Irma Rayborn; 2901 Greenwood Road; Hazel Crest, IL 60429; phone 708.957.5129 or email: irayborn@my.nl.edu.

If you have any concerns or questions before or during participation that you feel have not been addressed by the researcher, you may contact my Primary Advisor and Dissertation Chair: Dr. Dennis Haynes, National-Louis University (Chicago Campus), 122 S. Michigan Avenue, Chicago, IL 60603. Phone: 312-261-3534 or E-mail: dennis.haynes@nl.edu

Participant’s Signature: ________________________________ Date: __________

Researcher’s Signature: ________________________________ Date: __________
Appendix B: Consent Form – Student Focus Group

Thank you for agreeing to participate in this study that will take place from October 2012 to September 2013. This form outlines the purposes of the study and provides a description of your involvement and rights as a participant.

I consent to participate in a research project conducted by Irma Rayborn, a doctoral student at National-Louis University located in Chicago, Illinois. I understand the study is entitled “EXPLORING FACTORS THAT ATTRIBUTE TO THE MATRICULATION OF GED STUDENT TO CAREER AND TECHNICAL EDUCATION CERTIFICATE PROGRAMS IN COMMUNITY COLLEGES. The purpose of this study is to identify those factors which motivate individuals with GED certificates to complete career and technical certificate programs.

I understand that my participation will consist of completing a survey which will be used to collect data in the form of participants’ response to each question/statement. I understand that I may be selected to participate in a focus group session which may be audio-recorded lasting 60 to 90 minutes. I understand that the researcher will provide a lunch as compensation for my participation in the focus group. I understand that my participation is voluntary and can be discontinued at any time until the completion of the dissertation. I understand that my anonymity will be maintained and the information I provide confidential.

I understand that only the researcher, Irma Rayborn, will have access to a secured file cabinet in which will be kept all transcripts, audio files, documents and field notes from the focus group in which I participated. I am also aware that the results of this study may be published but my anonymity will not be compromised.

I understand there are no anticipated risks to the participants any greater than that encountered on a daily basis. Further, the information and insights gained from this study could be used to assist in the development of future career and technical certification training programs for GED students.

I understand that in the event I have questions or require additional information I may contact the researcher: Irma Rayborn; 2901 Greenwood Road; Hazel Crest, IL 60429; phone 708.957.5129 or email: irayborn@my.nl.edu.

If you have any concerns or questions before or during participation that you feel have not been addressed by the researcher, you may contact my Primary Advisor and Dissertation Chair: Dr. Dennis Haynes, National-Louis University (Chicago Campus), 122 S. Michigan Avenue, Chicago, IL 60603. Phone: 312-261-3534 or E-mail: dennis.haynes@nl.edu

Participant’s Signature: ___________________________ Date: __________

Researcher’s Signature: ___________________________ Date: __________


Appendix C: Participant Survey - GED Student

Date: ________________________

Participant Name: ______________________________________________

Please complete demographic questionnaire below for this dissertation research.

1. Gender:  □ Male    □ Female

2. Age Group:
   □ under 30 years
   □ 30 – 39 years
   □ 40 – 49 years
   □ 50 – 59 years
   □ 60 years or older

3. Ethnicity:
   □ Asian or Pacific Islander
   □ American Indian or Alaskan
   □ Black, non-Hispanic
   □ Hispanic
   □ White, non-Hispanic

4. Education:
   □ GED
   □ High School diploma
   □ Other

5. Are your current employed? If yes, where?
   Employer __________________________________________
   Position __________________________________________
   Employment dates: Mo_____ Yr_____

6. When did you obtain your GED certificate? Mo _____ Yr _____

7. When did you enroll in this career/certificate program? Mo _____ Yr _____
8. Would you be willing to participate in a focus group, discussing the factors the contributing to your completion of this program? Yes _____ No _____

Thank you for taking time from your busy schedule to complete this questionnaire. Your careful responses will provide substantive depth and clarity to this study and will aid in providing necessary context.

Irma Rayborn

Doctoral Student

National-Louis University

irayborn@prairiestate.edu

708 957-5129
Appendix D: Participant Survey - Program Executive, Director, Faculty

This questionnaire will provide a profile of each participant. To facilitate ease of access, the demographic survey will be uploaded to a commercially available Internet survey tool. The tool will capture, store, and summarize the results to allow for data analysis.

Date: ______________________
Participant Name: ________________________________________________

Please complete demographic questionnaire below for this dissertation research.

1. Gender:  □ Male  □ Female

2. Age Group:
   □ under 30 years
   □ 30 – 39 years
   □ 40 – 49 years
   □ 50 – 59 years
   □ 60 years or older

3. Education (please indicate area of study):
   □ Doctorate (Ph.D., EdD. ____________  □ Masters ____________
   □ Bachelors’ ____________  □ Other. ____________

4. Your current Position ___________________________ Number of Years____

5. Previous Position _______________________________ Number of Years____

6. Would you be willing to participate in an interview to discuss the influencing factors that contributes to students successfully completing the program?   ____Yes  ____No

Thank you for taking time from your busy schedule to complete this questionnaire. Your careful responses will provide substantive depth and clarity to this study and will aid in providing necessary context. This information will remain confidential.

Irma Rayborn
Doctoral Student
National-Louis University
irayborn@prairiestate.edu
708 957-5129
### Appendix E: Interview Questions Mapped to Guiding Questions

<table>
<thead>
<tr>
<th>Guiding Questions</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What are the intrinsic factors that influence GED participant’s decision to</td>
<td>What made you decide to continue your education after receiving your GED certificate?</td>
</tr>
<tr>
<td>complete career certificate programs in community colleges? (this question will</td>
<td>What influenced your decision the most?</td>
</tr>
<tr>
<td>be answered by GED student)</td>
<td>What are your personal goals?</td>
</tr>
<tr>
<td></td>
<td>Can you describe how you feel/felt about being a ‘college’ student?</td>
</tr>
<tr>
<td></td>
<td>Has anyone in your family attended or graduated from a postsecondary institution?</td>
</tr>
<tr>
<td></td>
<td>Why is this certificate important?</td>
</tr>
<tr>
<td>2. What are the extrinsic factors that influence GED participant’s decision to</td>
<td>What outside factors influenced your decision to complete the career certification program?</td>
</tr>
<tr>
<td>complete career certificate programs in community colleges? (this question will</td>
<td>What influenced your decision the most to pursue this program?</td>
</tr>
<tr>
<td>be answered by GED student)</td>
<td>Are other career certificate programs available, and if so, why did you not select them?</td>
</tr>
<tr>
<td></td>
<td>What potential employment opportunities will this certificate provide?</td>
</tr>
<tr>
<td></td>
<td>Do you plan to continue your postsecondary education? If so, in what field or area of study?</td>
</tr>
<tr>
<td>3. What are the program attributes that motivate GED student to complete the</td>
<td>Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve the Dream, Shifting Gears, I-Best etc.? If yes, for how long?</td>
</tr>
<tr>
<td>program? (this question will be answered by program executives, program managers</td>
<td>In what way do the career and technical certification programs have local business sponsors or business support (such as potential employment opportunities, internship, etc.)?</td>
</tr>
<tr>
<td>and program faculty members)</td>
<td>Are you aware of how, or in what ways, GED students are advised of career and technical certification programs at your college? If yes, please explain.</td>
</tr>
<tr>
<td></td>
<td>What do you believe are the influencing features of the career certificate programs to GED students?</td>
</tr>
<tr>
<td></td>
<td>Are you aware of any process or procedures that</td>
</tr>
</tbody>
</table>
track GED student progress and success at your college? If yes, please explain.

Are you aware of any strategies or programs, at your college, that transitions continuing education classes (non-credit) to postsecondary education degree programs (credits)? Of yes, please explain.

What assistance/support services are provided to GED student?
- a) Admissions
- b) Advising / counseling / mentoring
- c) Orientation
- d) Other

What other support issues, if any, are identified with increasing retention of GED student at your college?

What elements are in place, at your college, to address GED students' perceived barriers to advancing their education?

At your college, what matriculation services, including assessments, are provided that align the certificate programs to postsecondary degrees? Please explain.

### 4. What do GED student perceive as the barriers to completion of the program? (this question will be answered by program executives, program managers and program faculty members)

To what extent does the organizational structure of the career and technical certificate programs contribute to matriculation? Please explain.

Are there institutional system reports for obtaining program feedback, sharing lessons, and identifying support needs? If yes, please explain.

How are lessons learned, regarding or relevant to GED students in career and technical certificate programs, documented and implemented at your college?
Appendix F: Interview Questions for GED students

1. What made you decide to continue your education after receiving your GED certificate?
2. What influenced your decision the most?
3. Has anyone in your family attended or graduated from a postsecondary institution? If yes, please explain.
4. Can you describe how you feel/felt about being a ‘college’ student?
5. What are your personal goals: short-term and long-term?
6. Why is this program certificate important to you?
7. Do you plan to continue your postsecondary education? If so, in what field or area of study?
8. What influenced your decision to pursue this specific certificate program?
9. What outside factors influenced your decision to complete the career certificate program?
10. What potential employment opportunities will completion of this certificate provide?
Appendix G: Interview Questions for Program Administrators & Faculty

1. Are the career and technical certificate programs associated/affiliated with a national/regional initiative such as Achieve the Dream, Shifting Gears, I-Best etc.? If yes, for how long?

2. In what way do the career and technical certificate programs have local business sponsors or business support (such as potential employment opportunities, internship, etc.)?

3. Are you aware of how, or in what ways, GED students are advised of career and technical certification programs at your college? If yes, please explain.

4. What do you believe are the influencing features of the career certificate programs to GED student?

5. Are you aware of any process or procedure that tracks GED student progress and success at your college? If yes, please explain.

6. Are you aware of any strategies or programs, at your college, that transitions continuing education (non-credit) to postsecondary education degree programs (credit)? If yes, please explain.

7. What assistance/support services does your college provide to GED student? Please check all that apply:
   a. Admissions
   b. Advising / counseling / mentoring
   c. Orientation
   d. Other (please list)

8. What other support issues, if any, are identified with increasing retention of GED student at your college?

9. What elements are in place, at your college, to address GED students’ perceived barriers to advancing their education?

10. At your college, what matriculation services, including assessments, are provided that align the certificate program to postsecondary degrees? Please explain.

11. To what extent does the organizational structure of the career and technical certification program contribute to matriculation, at your college? Please explain.

12. Are there institutional system reports for obtaining program feedback, sharing lessons, and identifying support needs, at your college? If yes, please explain.

13. How are lessons learned regarding or relevant to GED students in career and technical certification programs, documented and implemented, at your college?
Appendix H: Confidentiality Agreement – Data Transcription

This confidentiality form articulates the agreement made between Irma J. Rayborn, the researcher, and [NAME OF INDIVIDUAL AND COMPANY OF A PROFESSIONAL TRANSCRIBER].

I understand and acknowledge that by transcribing the audio files provided to me by Irma J. Rayborn, that I will be exposed to confidential information about the research study and the research participants. In providing transcription services, at no time will I reveal or discuss any of the information of which I have been exposed.

In addition, at no time will I maintain copies of the electronic or paper documents generated. Further, upon completing each transcription, I agree to provide the electronic and paper documents to the researcher:

Irma J. Rayborn
2901 Greenwood Rd
Hazel Crest, IL  60429
Home: 708.957.5127
Cell: 312.519.8122
Email: ijrayborn@my.nl.edu

I understand that breach of this agreement as described above could result in personal and professional harm to the research participants for which I will be held legally responsible.

Transcriptionist’s Signature: _________________________________ Date: ___________

Researcher’s Signature: _________________________________ Date: ___________