

Selected Factors in High Schools that Affect Employment Status

by

Fabian Cook

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Approved by

James Witte, Chair, Professor, Educational Leadership, Foundations, and Technology
Jonathan Taylor, Co-chair, Associate Professor, Educational Leadership, Foundations,
and Technology

Leslie Cordie, Assistant Professor, Educational Leadership, Foundations, and Technology
Jane Teel, Assistant Clinical Professor, Educational Leadership, Foundations, and Technology
Maria Witte, Associate Dean, Graduate School, and Professor, Educational Leadership,
Foundations, and Technology

Abstract

This study examined the anticipated impact of workforce education efforts and the use of career pathways for young adults during secondary and postsecondary years of education and into the workforce for all socioeconomic groups. Study findings indicated that current employment levels were higher for adults that had received postsecondary education. Additionally, adults that had not graduated from high school were employed at lower rates than those that had graduated from high school. This study also found significant differences in the ability to attain full-time employment based on an individual's socioeconomic status. This study focused on the mission of workforce education and programs at both federal and state level governments that address how professionals administer and carry out workforce education. Additionally, a review of community partnerships and industries' efforts that are leading and establishing innovations in workforce education to sustain a pipeline of qualified personnel in the labor market was conducted and is discussed.

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List of Abbreviations

BLS	Bureau of Labor Statistics
CBO	Community Based Organizations
CCTI	College and Career Transition Initiative
CTE	Career and Technical Education
DOL	Department of Labor
ELL	English Language Learners
GED	General Education Development
HRD	Human Resource Development
IP-AES	Intensive College Readiness Programs for Adult Education Students
IT	Information Technology
OECE	Organizations for Economic Cooperation and Development
OJT	On the Job Training
RISE	Regional Industry Skills Education
SDL	Self-Directed Learning
SES	Socioeconomic Status
TOPs	Technical Opportunity Partnerships
WIA	Workforce Investment Act
WOIA	Workforce Innovation and Act
YA	Young Adult

Chapter I: Introduction

Workforce education is essential to the American workforce. Workforce education is a development strategy used to support workers transitions from education into and through the workforce. Career pathways determine how workers put workforce education into use. A career pathway is defined as “a framework for connecting a series of educational programs with integrated work experience and support services, thereby enabling students and workers to combine school and work to advance over time to better jobs and higher levels of education and training” (Jenkins & The Workforce Support Center, 2006, p. 3). Gray and Herr (1998) indicated that workforce education serves as a form of pedagogy at the pre-baccalaureate level by educational institutions, where the objective is to increase individual opportunity in the labor market or to solve human performance problems in the workplace.

Receiving training as an electrician at a Career and Technical College is an example of workforce education applied to advance an unskilled adult with education and training to enter the workforce. The term career pathway is interchangeable with other terms such as career map or action plan. Following a plan of action that has been thoroughly established with credentialing certifications as needed or initial and continuing education requirements for each level of advancement is pivotal. Having a career pathway may ensure adequate preparation; however, actively implementing it and using it as a strategy for successfully steering a career would be an appropriate way of using a career pathway. As careers change, so will the need to adjust pathways. The same amount of thought and preparation should be used in the subsequent shift to a new career pathway. The assumption is that young adults come out of high school with the hopes of going into a career field that will pay them enough money to support themselves

and eventually a family based on a job requiring a high school diploma or General Educational Development (GED).

Workforce education differs from general education in that the outcome goals of the latter are independent of employment. One mission is to promote individual opportunity by making students more competitive in the labor force, allowing them to pursue personal career goals. Secondly, is to make a nation economically strong and firms internationally competitive by solving human performance problems of incumbent-already employed-workers. (Gray & Herr, 1998, p. 4)

The use of a career pathway can potentially lead to a prosperous future with deliberate transitions during a professional career. Preplanning can also lead to more purposeful and satisfying career choices. Jobs are routinely taken because they are available due to the need for employment and not chosen because of interest level. Additionally, innovations and workforce development programs are being discussed, planned and implemented at all levels of government and in the private sector to determine the best course of action to employ citizens on a macro and microeconomic scale. Different industries are affected by different variables depending on the supply and demand of other factors. One example could be that a strong need for construction workers in Alabama is forecasted because of the growth in large companies relocating to the state. These relocations may be due to tax incentives provided by local governments for bringing good-paying jobs into the state economy. However, the state must have the supply or workforce to fill the demand for the increased commerce coming into the state. It is difficult to have one without the other. Finally, the use of career pathways may lead to desirable employment solutions. The federal government works to develop meaningful trade agreements with other countries for what each national economy needs both as an importer and exporter of goods and

services. On a micro-level, states are doing similar transactions as well as training their workforce and producing needed goods and services as part of the local policy being orchestrated at the state and national level. This process can take years and decades to develop the appropriate chemistry to yield and sustain a healthy economy. At the bottom of this economic system are workers that probably do not understand much or any of this process. However, the worker wants a job that provides a living wage. The need for quality career employment is needed across the nation, whether in urban cities or rural communities, the heartland of mid-America or the western states. This process of workforce education does not just happen; it has to be deliberate in order to be viable. Time is a limited resource, so the earlier a trained workforce can be equipped for this economic engine, the better chance there is for developing a robust workforce.

Statement of the Problem

There is a shortage of skilled workers in the labor market and career pathways are needed to efficiently maximize the future labor force in America to meet significant industry needs across the nation. Career pathways need to be introduced to the present and future workforce as early as possible. Additionally, individuals entering the workforce must be appropriately educated to fill the jobs that will be provided across the nation. Finally, individuals, regardless of economic status or if they are part of a disadvantaged community, need to have access to workforce education to be viable in the future labor market. There are many industries throughout America, with manufacturing serving as one primary industry relevant to this study. As the current working population retires from the workforce, and the United States and other world economies expand, employment needs will be met by the future working population. There is a lack of research about the relevant labor market needed to meet the demands in a

global economy. This process will involve governments, educators, employers, and workers. Stakeholders, partners, and individuals all have a role to play; however, the individual worker may not be aware or understand the scope of their role in this process. Workforce education, training, and development on multiple levels are vital to informing individuals of their role and the needs in the labor market. First, individuals must determine career choice and then be able to pursue the required training to gain the needed skills. According to Gray and Herr (1998), “workforce education includes human resource development (HRD) efforts for all types of incumbent workers including professionals” (p. 4). Additionally, individuals must be formally educated or trained in the appropriate disciplines within institutions of higher learning, career and technical schools (CTE), and in the workplace via on the job training (OJT) or internships.

Government agencies such as the Bureau of Labor Statistics (BLS) provide monthly employment forecasts of projected industry needs for future labor markets in the Occupational Handbook (Department of Labor, Bureau of Labor Statistics, 2017). These statistics and industry-driven data can be presented to primary and secondary school students to encourage students to start thinking about career fields of interest. Secondly, local business leaders should work as partners with government agencies to provide real-time data for their specific industry needs. For instance, manufacturing industries need credentialed machinists to work on designated pieces of equipment. Also, employers may work closely with state and local governments to receive grants so that they can provide apprenticeship opportunities to augment the workforce and subsequently hire new workers that fit the employers’ needs. These programs are vital to the lifeblood of many industries. According to Gray and Herr (1998), “workforce education is supported at the public expense not only because it is viewed as essential to economic growth, but because of the public views it as a way to ensure equal access to high-

skills/high-wage work” (p. 24). Individuals need to take an active role in their careers. Investing in ones’ self is imperative.

Many things motivate adults, and an individual’s career preparation should be a primary motivator in building and sustaining a stable livelihood. According to Tough (1971), self-directed learning (SDL) is a solution for motivating individuals to invest in their own career choices. Self-directed learning, according to Merriam and Brockett (2011) is a type of learning in which “the learner should have an active role in the learning experience, and they are responsible for completion of the learning requirement” (p. 16). Malcolm Knowles (1975) expanded the definition by stating:

In its broadest meaning, self-directed learning describes a process by which individuals take the initiative, with or without the assistance of others, in diagnosing their learning needs, formulating learning goals, identify human and material resources for learning, choosing and implement appropriate learning strategies, and evaluating learning outcomes. (p. 18)

Limited human resources to fill the needs in a growing economy, coupled with an aging workforce will create a need for large pools of skilled workers. A deficient in skilled labor can occur due to limited resources to augment than replace the current workforce. Several factors could compliment this predicament such as workers that are eligible to retire working longer, innovations in robotics to meet the labor market shortage or some industries sending work to foreign countries to bring goods to market or providing services as necessary. Finally, individuals in a specific socioeconomic status or a disadvantaged community, e.g., woman, minority, disability, senior citizen, immigrants and welfare recipients, need to have equal access to workforce education in order to make informed career decisions as well. Part of the challenge

for low SES or disadvantaged communities can be access to information which may be beyond the individual's control. The challenge of access could be due to geographical location or lack of resources, such as the internet, phone, transportation, or understanding options available in the workforce education programs. Individual's families may be their only source of what opportunities are available to them beyond their own home.

From a sociological perspective, the family is a facilitator, and particular family members may be role models of experience that limits or expands the knowledge and support of family member choices of educational and occupational options. The family is also the focus of reinforcements, contingencies, and expectations that subtly or directly shape work choice and behavior, and the family is a conduit for the attribution of socioeconomic status to children. (Gray & Herr, 1998, p. 107)

Purpose of the Study

The purpose of this study was to examine the anticipated impact of workforce education efforts and the use of career pathways for young adults during secondary and postsecondary years. This study examined the employment status of young adults based on postsecondary education activities. Secondly, it examined the current employment status of adults with and without a high school diploma. Finally, this study examined whether an individual's socio-economic status affected the attainment of full-time employment

Research Questions

The following research questions were used in this study:

1. What is the current employment status of young adults based on postsecondary education levels?

2. What is the current employment status of young adults who have or have not graduated from high school?
3. What is the relationship between socioeconomic status (SES) and full-time occupational attainment of young adults?

Significance of the Study

Based on the exposure to workforce education and the use of career pathways in secondary schools as well as in postsecondary educational institutions and the workforce, broader access and deeper understanding is needed for more comprehensive results in the use of career pathways throughout the country. The responsibility to expose students to workforce education cannot be placed solely on educators. Communications about workforce education must come from parents, governments, the use of social media, and emphasized by business leaders. America as a whole will benefit from the future workforce being educated on the needs in the labor market. Once knowledge is attained about the use of career pathways and workforce education, individuals can make more informed decisions about future career choices. Otherwise, adults, in some cases, will make limited career choices based on inadequate knowledge about what opportunities are available in the labor market.

Limitations

For this study, data from the National Center for Education Statistics (NCES) study, a 2002-2012 longitudinal study (ELS 2002) of approximately 16,000 American high school sophomores was used. NCES Researchers conducted surveys in 2002, 2004, 2006, and 2012. Over the course of ten years, several limiting factors came into play and should be considered. Initially, an expanded longitudinal timeframe could have provided greater detail on the success within the choice of career pathway selection by the participants. Most participants would have

been age 26 after this study. In an adult's working career, this is very early in the process and will probably change over time. Secondly, more time could provide a clearer picture of those participants that dropped out of high school and the decision to complete basic adult education while working a full-time job. Maturity could play a major role in the participant's decision process of time. Additional time could provide those participants that grew up with a low socioeconomic background to get a better foundation in the workforce. Finally, the NCES data covers approximately less than five percent of secondary students across the nation in a given year.

Assumptions

The assumptions of the study were that career pathways within the field of workforce education were not a widely used or known concept at the secondary school and postsecondary level of education and in the workforce. This assumption was made based on the current and future labor market shortages. If some secondary students are not aware of a career pathway, it may not be a widely known approach to pursuing career interests. Assumptions were made from the data of a sample of approximately 16,000 in the study that the findings would be consistent with that of the same population for the entire country. Another assumption was that the dropout rate would have been much lower today than what it was in earlier decades. Since the completion of secondary education is an entry-level requirement for employment, the unemployment rate would be low.

Definitions

- Apprenticeships (Registered): are programs that meet specific federally approved standards designed to safeguard the welfare of apprentices.

Apprenticeships can also be defined as relationships between an employer and employee during which the worker, or apprentice, learns an occupation in a structured program sponsored jointly by employers and labor unions or operated by employers and employee associations.

- Career Day Activities: activities designed to assist students in thinking about their interests and abilities about potential careers.
- Career Days/Career Fairs: allow students to meet with postsecondary educators, employers, and employees, or human resource professionals to learn about education and work opportunities.
- Career Pathway: is defined as “a framework for connecting a series of educational programs with integrated work experience and support services, thereby enabling students and workers to combine school and work to advance over time to better jobs and higher levels of education and training” (Jenkins & The Workforce Support Center, p. 3).
- Career and Technical Education (CTE): is applied to schools, institutions, and educational programs that specialize in the skilled trades, applied sciences, modern technologies, and career preparation.
- Career Talks: are when employers and employees visit students in the classroom and explain the work in their industry or company.
- Carl D. Perkins Vocational and Applied Technology Act: are federal funding that provided for career and technical education.
- Disadvantaged population: Individuals from lower-income backgrounds.

- Economic Development: is the process by which a nation improves the economic, political, and social well-being of its people.
- Internships: when students work for an employer for a specified period to learn about a particular industry or occupation. Students' workplace activities may include special summer projects, a sample of tasks from different jobs, or tasks from a single occupation.
- Job Rotations: students at a worksite transfer among a number of positions and tasks that require different skills and responsibilities in order to understand the steps that go into creating a product and/or service, how their effort affects the quality and efficiency of production and Customer Service, and how each part of the organization contributes to productivity
- Job Shadowing: is when a student follows an employee at a company location to learn about a particular occupation or industry. Job shadowing can help students explore a range of career objectives and select a career major for the latter part of high school.
- Knowledge workers- is when individuals who have postsecondary education credentials, the ability to learn rapidly, and an entrepreneurial approach to employment.
- Labor force: all persons classified as employed or unemployed. Two categories; civilian labor force is an estimate of persons 16 years of age and over who are either employed or unemployed except those institutionalized, were seeking employment or not.
- Mentoring: Employee(s) who possess the skills and knowledge to be mastered by a student, and who instructs the student, critiques the performance of the student,

challenges the student to perform well, and works in consultation with teachers or youth organizations and the employer of the student.

- National Employer Leadership Council (NELC): advocates and supports the school to careers initiatives combining classroom courses with real-life learning to ensure all students meet high standards and therefore are prepared for continuing education and the cutting-edge jobs of the 21st century.
- Rural community: a geographic area that is located outside towns and cities.
- Self-directed Learning: when the learner takes the initiative to pursue a learning experience and the responsibility for completing their learning.

Allen Tough (1971) defined it as “a series of related episodes, adding up to at least seven hours. In each episode, more than half of a person’s total motivation is to gain and retain certain fairly clear knowledge and skill or to produce some other lasting change in himself”. (p.6)

- Social Capital: are the kinds of experiences that affluent families provide for young people through their networks, enrolling their children in enriching experiences, and supervising or guiding them through high school, college admissions, the college years, and even beyond. (Hoffman & Schwartz, 2017, p. 64).
- Workforce (labor market): are all the members of a particular organization or population who can work, viewed collectively.
- Workforce development: is an approach to economic development that attempts to enhance a region’s economic stability and prosperity by focusing on people rather than businesses. Defined as the coordination of school, company, and governmental policies and programs such that as a collective they enable individuals the opportunity

- to realize a sustainable livelihood and organizations to achieve worthy goals, consistent with the history, culture, and goals of the societal context. (Jacobs, 2000)
- Workforce education: is that form of pedagogy that is provided at the pre-baccalaureate level by an educational institution, by private business and industry, or by government-sponsored, community-based organizations where the objective is to increase individual opportunity in the labor market or to solve human performance problems in the workplace. (Gray & Herr, 1998, p. 4)
 - Worksite Tours: is when students visit the worksite, talk with employees, and observe the workplace activities.
 - Young adults: is generally a person ranging in age 18 – 40 according to Erikson's developmental stages (Hattangadi, 2019, p. 4).

Organization of the Study

This study is organized into five chapters. The first chapter provides an introduction and context of the study and provides basic information on the intent of workforce education, the use of career pathways, the research questions that guided the study, as well as assumptions, limitations, and definitions that are pertinent to the work. Chapter two is a review of literature that provides background information on the foundation of workforce education, programs at the federal and state level, addressing how they are administered. Chapter three describes the research used to conduct the study, a description of the data, the sample used, and the analysis of the data. The dataset used in the study is also described and give reference to these documents. Chapter four presents the data collected and the findings of the study. Chapter five presents conclusions and a summary of the results of the study.

Chapter II: Literature Review

This chapter provides background information on the foundation of workforce education from its early formation. The mission of workforce education and programs at both federal and state level governments that address how workforce education is administered and carried out. Also addressed was information on community partnerships and industries that have led and established innovations in workforce education. Career pathways that can sustain a pipeline of qualified personnel in the labor force were discussed. Finally, literature regarding the accessibility of opportunities in workforce education for individuals regardless of socioeconomic status was reviewed.

Purpose of the Study

The purpose of this study was to examine the anticipated impact of workforce education efforts and the use of career pathways for young adults during secondary and postsecondary years. This study examined the employment status of young adults based on postsecondary education activities. Secondly, it examined the current employment status of adults with and without a high school diploma. Finally, this study examined whether an individual's socioeconomic status affected the attainment of full-time employment.

Research Questions

The following research questions were used in this study:

1. What is the current employment status of young adults based on postsecondary education levels?
2. What is the current employment status of young adults who have or have not graduated from high school?

3. What is the relationship between socioeconomic status (SES) and full-time occupational attainment of young adults?

Definition and Purpose of Workforce Education

Workforce education is defined as “the form of pedagogy that is provided at the pre-baccalaureate level by educational institutions, private business, and industry, or government-sponsored, community-based organizations” (Gray & Herr, 1998, p. 3). One form of workforce education can be that of career and technical education (CTE) or an apprenticeship in the workplace by employers. In either setting, the intent is to educate adults on work-related functions and skills. “One primary mission of workforce education is to prepare individuals to be successful in competing for vacancies in the labor market” (Gray & Herr, 1998, p. 72). Herman van de Werfhorst (2014) believes that there are four tasks for education in contemporary societies; prepare youths for the labor market, efficiently sort students into tracks according to their talents and interests in order to optimize the production of knowledge and skills, education should provide equal opportunities to children from different backgrounds in terms of ethnicity or socioeconomic status, and socialize citizens into active civic engagement.

Additionally, companies can, in some cases, benefit by expanded growth in the economy. Adding technical competence to the individual and the company developing a skilled workforce is advantageous to both parties. “The primary mission of workforce education in the public sector is to promote individual opportunity, and in the private sector the objective is to improve human performance in order to increase productivity” (Gray & Herr, 1998, p. 21). Training, in general, emphasizes achieving a certain level of skill attainment to perform a specific task (Beebe, Mottet, & Roach 2004). Training can occur through workforce education and development as part of establishing or attaining a career. Workforce education was examined in

the context of understanding and developing the use of career pathways. Many people receive a formal education at some level; however, the ability to navigate through a sustained career pathway can be missing. Education occurs when “Learning is continuous with no cap or ceiling on how well the graduate may be prepared to handle new responsibilities” (Beebe et al., 2004, p. 6). Whitehouse and Counts (2017) observed that many State leaders in Kentucky and other states are focused on talent development and apprenticeships as the way forward in growing labor participation and drawing mid- and high wage jobs to the states. As businesses continue to recover from the Great Recession, they are attempting to do so in a new atmosphere. The 21st century has seen two critical shifts related to economics and workforce development — the return of manufacturing jobs to the United States and new technological requirements of these jobs. While job opportunities continue to grow, today’s factories employ fewer individuals but require higher skills in technical knowledge.

The Basis for Workforce Education

Current workforce education and training policy was established as a result of the early stages of industrialization. The evolution for the need for massed produced quality goods, changed the approach to work, the worker, and the workplace setting. Industrialization catalyzed workforce education. As Gray and Herr (1998) pointed out, the first known workforce education in American was during the colonial period with apprenticeship arrangements. The Olde Satan Deluder Act of the Massachusetts Bay Colony, set specific requirements for masters to train apprentice’s academic as well as occupational skills. Gray and Herr (1998) further suggested that in the apprenticeship system, individuals who wanted to learn a craft sought a master within a craft discipline who would take them on as apprentices. The subsequent shift to industrialization, transformed the skilled worker into a factory setting to perform similar

functions on a broader scale. “Unlike Germany, the apprenticeship tradition did not survive industrialization” (Gray & Herr, 1998, p. 7). Mass production in the manufacturing setting needed skilled labor to supply goods for increasing demand for goods. The rise of mass production took individual workers out of shops as entrepreneurs and made them employees. Over time investing in human capital in years, past was a moderate to low priority; however, in the current global economy that has changed significantly. Today these similar principles and institutions can be applicable in the US economy, the approach to work, workforce education, and the work setting. America is challenged to build on past experiences to develop momentum for the future. Legislators developed strategies to provide programs to improve quality workforce education and training for citizens in America.

Workforce education can serve as a catalyst in America’s future and its ability to keep pace as a leader in the global economy. The governor for the State of Oklahoma proposed several points that are instrumental to that state’s economy:

1. Coordinating strategic planning processes to integrate the missions of key state agencies, including education, workforce training, and economic development;
2. Bringing together leaders from industry and education to agree on standards, competencies, and a system of quality credentials tied to emerging high-wage, high-demand careers;
3. Enacting policies and programs (for example, dual-credit courses, career tech programs, career pathway systems) that better prepare high-school students for college or career training;
4. Enacting policies and programs (for example, revised high-school equivalency credentials, strengthened adult career pathway systems) to support retraining

unemployed and underemployed adults for high wage, high-demand careers. (Fallin, 2014, p. 29)

GEAR UP, established and funded by the U.S. Department of Education through the 1998 Higher Education Amendments Act, is a discretionary grant program designed to increase the number of low-income students prepared to graduate high school and enroll in postsecondary institutions; educate students and parents about postsecondary education opportunities; and increase students' and parents' knowledge about the availability of financial aid resources. The program allows for 6-year grants awarded to states and to partnerships, composed of an institution of higher education (IHE), a local educational agency (LEA), and at least two other organizations, in providing a cohort model for low-income students beginning no later than the seventh grade and tracking them through high school. While at least 50% of students 600 Education and Urban Society 47(5) at participating schools must be designated as low income based on the need for subsidized lunch, the cohort model allows for all of the school's students at the participating grade levels to receive the program services (U.S. Department of Education, Office of Postsecondary Education, 2012). As of 2011, roughly three trillion, 600 million has been awarded to grantees to provide GEAR UP programs to serve just under nine million students. (Bausmith & France, 2012)

Preparation for the Workforce

Workforce education is considered a professional endeavor by those that conduct or provide this service. Gray and Herr (1998) stated that preparing one's self and keeping current with the knowledge base and skills of the profession and using these skills to the best of one's ability" (p. 22) is essential. Several ethical traits are important as well, "promoting learning,

ensuring health and safety, protecting the public or private trust and promoting the transfer of learning” (Gray & Herr 1998, p. 23). These ethical obligations embody what a professional workforce education professional being should strive to provide in the service to others.

Workforce education is shaped by public policy. Public policy consists of six characteristics; “public policy exists within the public domain, public policy is intended to create a public good, public policy reflects social values, public policy involves multiple parties and perspectives, and the results of public policy are often unpredictable” Quade (1989). The World Wide Web via the internet serves as the gateway between public and private enterprises for regulatory guidance, managing businesses and governments, and conducting national and international commerce. This single form of communication has shaped the way industrialized nations function in the public and private sectors. “As part of shaping public policy in information technology, the 21st Century Workforce Commission was established by Congress to take an assessment of the information technology (IT) workforce around the country” (21st Century Workforce Commission, 2000, p. 13). The Commission’s 17 members with relevant expertise from business, education, labor, and government were charged with studying and recommending to the President and Congress how best to ensure that American workers can prepare for and succeed in the IT jobs of today and tomorrow. The keys to success include the following nine statements:

1. Building 21st Century Literacy - Every American youth and adult needs to acquire 21st Century Literacy strong academic, thinking, reasoning, and teamwork skills, and proficiency in using technology.
2. Exercising Leadership Through Partnerships - Americans who exercise leadership in regionally and locally based partnerships, supported by well - designed state and

- federal policies and programs, create the most effective solutions for addressing 21st Century Literacy and IT skills shortages.
3. Forming Learning Linkages for Youth American high schools - need to strengthen their connections with postsecondary education and the workplace to motivate and encourage students toward higher personal goals and give them a realistic sense of the world of work.
 4. Identifying Pathways into IT Jobs - American adults and youth need to clearly understand the skills needed for IT employment at various levels and the opportunities for training.
 5. Increasing Acquisition of IT Skills more Americans - need to enroll in and complete high-quality information technology programs that provide them with up-to-date skills and knowledge needed to succeed in today's IT workplace.
 6. Expanding Continuous Learning Americans in the 21st Century workplace - will need to continuously upgrade their skills and knowledge as new technologies and work patterns emerge.
 7. Shaping a Flexible Immigration Policy for Skilled IT Workers - American immigration policy needs to be flexible to address ongoing IT skills shortages.
 8. Raising Student Achievement American schools - need to make sustained and continuous improvements so that students are prepared for postsecondary learning and 21st Century jobs.
 9. Making Technology Access and Internet Connectivity - Universal Regional and national strategies need to provide for universal access to Internet connectivity and

high-speed broadband connectivity, computing technology, and facilitate training for technological literacy. (21st Century Workforce Commission, 2000, p. 9)

Several points align with career pathways specifically: literacy, partnerships, forming linkages for youths, identifying pathways, and expanding continuous learning for adults. Students have been charged with the task of navigating through a more rigorous secondary school curriculum than students of 10 or 20 years ago. The reason for this change is the type of jobs that will be needed in the 21st-century workforce. Students are being asked to adapt to changes in the secondary school curriculum in order to prepare for the workforce. As a result, the gap between what students know and what the labor market needs can provide a mismatch in abled bodies and prepared entry-level workers. According to the 21st Century Workforce Commission (2000), American adults in the labor force are having challenges reading or computing at a level adequate to complete postsecondary education and training or have the ability to compete in the Information Technology labor market. Collaborative efforts are needed between industry and educational institutions to close any gaps and minimize deficiencies in present workers. The Commission notes that

Twenty-first Century Literacy builds on the foundation of 20th Century Literacy. In the 20th Century, the benchmark for literacy was meeting a basic threshold of reading, writing, and mathematical computing ability. This literacy level was sufficient for the Industrial Age, but today's jobs require these basic skills as well as a higher level of the academic, workplace, and technical skills. The literacy bar was raised decade by decade during the last century, and continues to rise. (21st Century Workforce Commission, 2000, p. 26)

Currently, employers are demanding that workers possess adequate advanced education at the postsecondary degree level, indicating that high school graduates and dropouts will find it difficult to obtain even traditional entry-level jobs (Carnevale, Smith, & Strohl, 2010). Equally important are the building of partnerships and establishing linkages between secondary programs, post-secondary programs and the business community to ensure that once students complete high school, they are primed for some form of post-secondary education in the public or private sector. Linkages may come in the form of on the job training (OJT), certification programs from career and technical education (CTE) or public or private sponsored apprenticeships. Several recommendations were made to the 21st Century Workforce Commission (2000) to help bridge this gap in the technology field:

Technology Opportunity Partnerships: Businesses and business-led organizations, educational institutions, schools, labor unions, community-based organizations, and local and state governments should work together to create Technology Opportunity Partnerships (TOPs). These partnerships should analyze the general levels of 21st Century Literacy among residents and the technology skills gaps that exist in a locality or region and create a multi-faceted strategy for addressing them. The strategies should include goals and action steps to address, at a minimum, the following issues: Raising student achievement in K-12 education. Forming stronger linkages between middle and high school student and the world of work and postsecondary education. Identifying clear pathways for youth and adults to enter IT careers. Increasing the numbers of workers who acquire marketable IT skills in postsecondary education programs. Expanding continuous learning opportunities. Increasing access to information technology and Internet connectivity among all segments of the population

Technology Opportunity Partnerships: Congress and the Executive Branch should create a package of federal incentives, including greater flexibility in the use of related federal program funds, to encourage the development of Technology Opportunity Partnerships.

Seed Funding for Technology Opportunity Partnerships: Federal funds should be used to source the development of Technology Opportunity Partnerships, either for strategic planning activities by existing initiatives or for the creation of new initiatives.

Technical Assistance Support: The Executive Branch should provide funding to one or more experienced and successful Technology Opportunity Partnerships. These selected TOPs can dedicate staff and resources to provide hands-on and online technical assistance to other emerging Technology Opportunity Partnerships. (p. 35)

Career building or career pathways are instrumental in exposing adults to required career fields, education requirements, training, skills, and opportunities that exist in each community or within the nation. This is a coordinated and multi-level effort by many public and private agencies. Agencies such as the Department of Labor's employment and training, the bureau of labor statistics and postsecondary programs like Career and Technical education institutions and small and larger employers all play a vital role in this process. According to the 21st Century Workforce Commission (2000):

Career-building resources in a large and diverse nation like the United States, there are youth and adults in many different places and circumstances who may be interested in joining the IT workforce, but they do not know how. Individuals exploring options within the IT job market want to know about specific opportunities within their immediate community, the surrounding region, and throughout the nation.

Additionally, they need to know what skills, knowledge, aptitudes, and experience are required to perform different types of IT jobs. Finally, job seekers need to know the steps in education, training, and job searching techniques required to secure an IT job.

Electronic databases and other career-building resources can help consumers (whether they are students, career changers, displaced workers, or incumbent workers needing skills to upgrade) make smart decisions about education and training related to information technology jobs. (p. 44)

Expanding continuous learning for lifelong learners is essential to making up workforce shortages in certain industries across the country. Companies can provide internal training and education opportunities to sustain a competitive advantage. Companies can train workers by using nontraditional methods such as using unemployment benefits or maximizing distance learning approaches to training in order to survive in some industries. Cooperative efforts are needed between industry leaders, local and federal governments, nonprofits, and private firms to develop a strategic approach to solving industry shortages through the use of a lifelong learning mindset. According to the 21st Century Workforce Commission, (2000) some of the industry leaders in California used some of the following strategies to minimize some shortages in the Information technology industry:

- Availability of Relevant Courses: Businesses, industry, educational institutions, and labor unions should work together to make sure that local or distance-learning programs address emerging skills needed by IT workers.
- Policies affecting Employer-provided training: Businesses should evaluate workers skills, available resources, and the impact of tax policies to develop clear company strategies to enhance worker skills and knowledge.

- **IT Training Tax Credit:** Congress and the States should create IT job-training tax credits to provide businesses with a partial credit for the costs of providing their workers with IT skills, for adult education that is linked to IT training, or for costs of engaging in partnerships related to IT skills training.
- **Unemployment Benefits and Job Training:** Congress, the Executive Branch, and the States should evaluate the need to provide income maintenance benefits to workers in training programs that are not on state-approved lists or to workers who have exhausted unemployment insurance benefits.
- **Federal Funding for Continuous Learning:** Congress and the Executive Branch need to carefully examine the full mix of loans, grants, tax exemptions, Lifelong Learning tax credits, and other funding resources to ensure that they are relevant and flexible enough to address the needs of workers engaging in continuous learning, and to help employers provide short-term training for employees.
- **New approaches may be needed to assist individuals who want to invest in themselves by acquiring marketable skills.**
- **Tax Treatment of Employer-Provided Education.:** Congress should permanently extend Section 127 of the IRS code, making employer-provided educational assistance tax-free to both the employee and the employer.
- **H-1B Fees for IT Training:** Congress should continue to allocate H-1B fees to fund IT skills training programs.
- **Flexibility for Incumbent Retraining:** States should ensure that federal and state funds can be accessed by companies to retrain incumbent workers to fill new jobs being

created. States should give clear guidance to businesses on how to access and use those funds. (p. 64)

State and local government leaders tailor programs that make sense for their constituents. Mark Clark, Director of Department of Labor, Coweta County, Georgia stated that in his local office (Coweta) county, “area services organizations such as West Georgia technical college, and others agencies set up shop in the local DOL office to facilitate the needs of local citizens” (M. Clark, personal communications, Oct 30, 2017). Only one branch office in the region is fully staffed to provide a total government one-stop employment training assistance. These contextualized services provide individuals with training, education, and opportunities to assist them with getting back into the workforce. This process empowers everyday citizens with professional resources to equip them for employment. Also, the federal funding for job training in the Workforce Innovation and Opportunity Act (WIOA, 2014) provides them with financial resources.

Federal Programs

The federal government has a program to assist individuals with employment and training described as the Workforce Innovation and Opportunity Act (WIOA, 2014). The Workforce Innovation and Opportunity Act outlines the federal government’s workforce education and development strategy for both the public and private sectors. It provides employment and training opportunities within designated career fields. The Workforce Innovation and Opportunity Act includes five titles:

1. Title I: Workforce Development Activities - authorizes job training and related services to unemployed or underemployed individuals and establishes the governance and performance accountability system for WIOA;

2. Title II: Adult Education and Literacy- authorizes education services to assist adults in improving their basic skills, completing secondary education, and transitioning to postsecondary education;
3. Title III: Amendments to the Wagner-Peyser Act - amends the Wagner-Peyser Act of 1933 to integrate the U.S. Employment Service (ES) into the One-Stop system authorized by WIOA;
4. Title IV: Amendments to the Rehabilitation Act of 1973 - authorizes employment-related vocational rehabilitation services to individuals with disabilities, to integrate vocational rehabilitation into the One-Stop system; and
5. Title V: General Provisions - specifies transition provisions from WIA to WIOA.
(WIOA, 2014, p. 7)

The Department of Education's Office of Vocational and Adult Education sponsored a College and Career Transitions Initiative (CCTI) that named the League for Innovation in Community Colleges as the project administrator. The intent was to renew the efforts toward seamless transitions from secondary to postsecondary school by coordinating an academically rigorous study with career and technical courses across education sectors. Key funding for this initiative comes from the Carl D. Perkins authorization Act. The goal of the initiative was to help community colleges, working with high schools and business partners, create career pathways that lead from high school to two-four year degrees and technical careers. (Hughes & Karp, 2006, p. 1)

States across the nation had multi-faceted approaches to solving or addressing this transitional challenge from secondary to postsecondary education by enhancing curricula to accommodate those students interested in CTE. Curriculum changes have improved with the

intent of equipping prospects for the labor market. Each career pathway has its requirements, and greater alignment is needed at the secondary level early in the matriculation of the student. Several states are finding ways to include CTE courses in their new high school graduation requirements. They do so by creating diploma endorsements that reward CTE students for their extra work.

Apprenticeships

Apprenticeships have been around since the nation's founding (indeed, they can be traced back to the Middle Ages in Europe), but it was not until the New Deal programs were enacted to fight the Great Depression that these were formalized in the National Apprenticeship Act of 1937 (Washington State Department of Labor and Industries, n.d.). Apprenticeship programs have the potential to be a significant resource to augment job growth in different industries. Presently, many manufacturing jobs have moved to other countries, however there is a major need for apprenticeship programs in large numbers throughout the nation. Wyman (2015) indicated that the Obama administration had launched several initiatives to promote jobs-driven training, including expanding funding for community colleges and using incentives to encourage the growth of registered apprenticeship programs. A grant competition was established to award organizations and partnerships funding in the American Apprenticeship Grants (AAG) competition, with the intent of increasing opportunities in high growth fields such as information technology, health care, and advanced manufacturing. Grants were awarded to employers as well as to partnerships among employers, community colleges, local and state governments, labor organizations and nonprofits, to scale up successful apprenticeship models and on-the-job training programs that provide pathways to in-demand jobs.

According to Wyman (2015), the benefits of expanding apprenticeships are a time-tested method of training that leads to middle- and high-skilled careers across industries. The majority of apprentices that complete the program are hired on after completion, with the average salary being over \$50, 000. Moreover, from a policy perspective for every dollar, the federal government invests, the return is \$27 in economic growth for the country. However, the American programs have not been modeled as the European countries. In America, as mass manufacturing was needed to fuel the industrialization of the country, apprenticeship was not the primary delivery workforce training model. Whereas, European countries are smaller than the United States and providing apprenticeship programs across Europe was more feasible for governments to fund.

If production increases, business leaders from across the nation should advocate for investments in Apprenticeship and Training Programs. To urge Congress to invest in the skills of America's workers to close the skills gap and develop a pipeline of skilled, trained workers that meets the demand of growing industries. According to an article by the Business Leaders United for Workforce Partnerships (2017),

Business leaders from six southern states, including several from Georgia, gathered in Washington D.C. to speak with Senators and Representatives, including leadership from the House Ways and Means and Education and Workforce committees to discuss the critical role that small- and medium-sized businesses should play as Congress develops and modernizes workforce policies. Discussion focused on the need for Congress to invest in and support work-based learning opportunities like apprenticeship, on-the-job training, and career and technical education. To expand financial aid options for nontraditional but career-oriented students who want to earn credentials or certificates in

an in-demand field, urging Congress should make it easier for students taking high-quality, noncredit programs to qualify for Pell Grants, especially those seeking certifications in high demand fields. (p. 2)

The 21st century has seen two important shifts related to economics and workforce development. The first is the return of manufacturing jobs to the United States, and the second is the new technological requirements of these jobs (Whitehouse & Counts, 2017). Job opportunities continue to grow; however, in more technology-based roles, creating a skills gap between how individuals are currently educated and the deficiency in what companies need employees to know as a foundation for employment. Apprenticeship programs are vital to closing this skills gap for the employer. Federal programs have been instrumental in providing the necessary funding to support this effort through employers and partnerships, community colleges, on-the-job training, and apprenticeships. Whitehouse and Counts (2017) revealed that success strategies needed to close the skills gap are engagement with the business community and partnerships between education/training providers and businesses that provide on-the-job training. Workforce for businesses. This results in apprenticeship training more individuals in various occupations leading to good-paying jobs. These opportunities assist in breaking cyclical poverty in communities across the nation.

In conclusion, apprenticeship programs have served as a catalyst for meeting job growth through advances in technology and the return of some manufacturing industries to the United States. Also, apprenticeships are needed to keep up with production needing skilled labor. Lessons can be learned from European countries that have strong vocational work-study programs for the youth. Apprenticeships will remain as the key to success in many industries as baby boomers retire; the shortage of workers with the skills to replace them is expected to grow.

The manufacturing industry will face a shortage of millions of skilled workers in the next decade. Finally, launching a successful apprenticeship model needs two things, according to Wyman (2015) on-site work and mentoring. Clearly, apprenticeship programs cannot exist without intense and often expensive employer-college involvement—a challenge that community colleges find among the hardest challenges they face (Browning & Nickoli, 2017). Strategically designed apprenticeship programs aggregate, monitor and streamline the changing inputs and relationships required to promote workers and pave paths of sustainable employment.

Apprenticeships that involve mentoring provide trainees with the frame of reference they need to forge a sustainable path, including networks and training resources. In recent years, there has been a growing belief that colleges are not adequately preparing students for the jobs and careers needed in the 21st century and that a substantial gap exists between the training and education America’s college graduates receive and the skills today’s labor market demands (Schneider & Sigelman, 2018; Selingo, 2017; US Department of Labor, 2018).

Self-Directed Learning

The majority of all adult learning is self-directed (Teaching Excellence in Adult Literacy, 2011). Many of these events are conducted annually. Nearly all adults conduct at least one self-directed learning project annually (Teaching Excellence in Adult Literacy, 2011). These projects normally occur in an informal setting where adults have an interest. Self-directed learning (SDL) is a

process in which individuals take the initiative without the help of others in planning, carrying out, and evaluating their own learning experiences. When the individual learner makes a conscious decision to engage in postsecondary education, the implication is that

effort beyond formal instruction will be required by the learner beyond the formal learning that is given. (Knowles, 1975, p.2)

Self-directed learning serves as a motivator for upward mobility in the learning process. Learning preferences is when the learner makes decisions about the content, methods, resources, and evaluation of the learning. Individuals take responsibility for their learning process by determining their needs, setting goals, identifying resources, implementing a plan to meet their goals, and evaluating the outcomes (Teaching Excellence in Adult Literacy Center, 2011). Learning can involve isolated activities, such as researching or consulting peers and subject matter experts beyond the classroom. Self-directed learning can be difficult for adults with weak literacy skills who may lack independence, confidence, internal motivation, or resources. Brookfield (1985) suggested that not all learners prefer the self-directed option and that many adults who engage in self-directed learning engage in more formal educational programs, such as teacher-directed courses. The instructor can augment traditional classroom instruction with a variety of techniques to foster self-directed learning for individuals or for small groups of learners who are ready and willing to embark on independent, self-directed learning experiences. Self-direction is a critical component of persistence in adult education, helping learners recognize how and when to engage in self-study when they find they must stop out of formal education. The following are strategies for facilitating self-directed learning.

The teacher can help the learner to (1) Conduct a self-assessment of skill levels and needs to determine appropriate learning objectives; (2) Identify the starting point for a learning project; (3) Match appropriate resources (books, articles, content experts) and methods (Internet searches, lectures, electronic discussion groups) to the learning goal; (4) Negotiate a learning contract that sets learning goals, strategies, and evaluation criteria;

Acquire strategies for decision-making and self-evaluation of work; (5) Develop positive attitudes and independence relative to self-directed learning; and (6) Reflect on what he/she is learning. The teacher also can (7) Encourage and support learners throughout the process, helping them recognize their growing thought processes and strategies.

(Teaching Excellence in Adult Literacy Center, 2011)

Instructors should encourage learners to become more strategic thinkers by assisting them to focus on the ways they process information. Self-reflection, journal writing, and discussing their thought processes with other learners are among the ways that teachers can encourage learners to examine and develop their metacognitive processes. Fogarty (1994) suggested that metacognition is a process that spans three distinct phases. To be successful thinkers, according to Fogarty, students must: (1) Develop a plan before approaching a learning task, such as reading for comprehension or solving a math problem, (2) Monitor their understanding; use “fix-up” strategies when meaning breaks down and (3) evaluate their thinking after completing the task.

Self-directed learning serves as motivation for the learner by encouraging them in the learning process. In the formal and informal learning process, the learner is active in the outcome. In the formal setting, the instructor leads the process with the learner serving as a willing participant in the learning exchange, where learning is determined by attentiveness and aptitude. The instructor can influence the classroom experience through teaching strategies focused on teaching the learner how to use techniques to strengthen them in the learning process. However, in the informal setting, the learner dictates what will be learned and at what rate learning will be done. In the informal setting, the learner determines what will be learned, and when learning will take place. The learning process is enhanced with skills that were learned from the formal setting. The metacognition skills and techniques of planning, monitoring, and

evaluating what was learned in the process can serve as a benefactor both in the formal and informal setting. As learners develop the internal drive and learning techniques to succeed in postsecondary education, being allowed to apply those skills is needed. On-site training and mentoring through an on the job training or apprenticeship program serves as the subsequent step for progression.

Career Pathways

Career pathways drive efficiency in the development of skilled workers through workforce education and training. They serve as a road map to desired goals with substantive requirements of guidance and instruction. Requirements for credentials within a given field would be stated in a career pathway. The Department of Labor's Employment and Training Agency (DOLETA) defined career pathways as:

a combination of rigorous and high-quality education, training, and other services that—

- (A) aligns with the skill needs of industries in the economy of the State or regional economy involved;
- (B) prepares an individual to be successful in any of a full range of secondary or postsecondary education options, including apprenticeships registered under the Act of August 16, 1937;
- (C) includes counseling to support an individual in achieving the individual's education and career goals;
- (D) includes, as appropriate, education offered concurrently with and in the same context as workforce preparation activities and training for a specific occupation or occupational cluster;
- (E) organizes education, training, and other services to meet the particular needs of an individual in a manner that accelerates the educational and career advancement of the individual to the extent practicable;
- (F) enables an individual to attain a secondary school diploma or its recognized equivalent, and at least one recognized postsecondary credential; and
- (G)

helps an individual enter or advance within a specific occupation or occupational cluster.
(WOIA, 2014, p. 7)

Guidance from the federal government is provided to individual states for implementation in state policy for workforce programs. Through workforce legislation, funding is provided by the federal government through a series of specified entitlements intended to build adult literacy in the area of workforce education and training. In this study, the state of Illinois, Texas, and Wisconsin, workforce education and development agencies have provided federally funded programs for individuals in low socio-economic communities and backgrounds. Programs are centered on assessing individual adult basic education (ABE) level through assessment testing. Adult basic education is provided as remedial based English, Math, and writing courses as needed. Then individuals receive dedicated workforce education and training leading to a credentialed postsecondary education for a targeted industry, and probably job opportunities. There are nonprofit organizations that provide preparatory education and training known as postsecondary on-ramps for individuals pursuing postsecondary training that need additional preparation before entering a postsecondary credentialed program.

On-ramp programs primarily serve individuals who are public benefits recipients, adult education learners, postsecondary education students, employees, public housing residents, workforce center customers, community-based organization clients, refugees, immigrants, parents, and more. The on-ramp programs will seek to intentionally understand the complexities of individual engagement with public and private systems and provide an integrated service delivery model to most optimally serve each.

(Mortrude, 2016, p. 5)

The Center for Law and Social Policy (CLASP) uses a contextualized strategy known as integrated education and training (IET) for career pathways (Mortrude, 2017). Integrated education and training is a research-proven educational practice based in adult learning theory such as andragogy, self-directed learning and transformational learning that helps educationally underprepared adults pair foundational skill building with workforce preparation and training within in-demand occupations. The integrated education and training are delivered through pre-apprenticeship programs, adult education & literacy programs, workforce preparation programs, and workforce training.

Integrated education and training programs are credentialed and can take as little as three months up to twenty-four months (Mortrude, 2017). Some fields can be for licensed adult education providers who are well-positioned to provide IET's foundational skill building components (e.g., reading, math, writing, high school preparation, English Language Learning) and workforce preparation component (e.g., critical thinking, digital literacy, self-management skills, employability skills) in a career pathway. Integrated education and training provide the method of training within a specific career pathway. When an individual wants to obtain a commercial driver's license (CDL), education and training are provided through an integrated education and training model. Education and training are contextualized to adapt the learner to the requirements for successfully meeting the education and training standards needed to become certified in a given field. The individual must be self-directed in the learning exchange in order to be successful in an endeavor. The career pathway serves as the delivery model for education and training across a given industry.

Connection to Postsecondary Education

Transition programs for students seeking adult education after completing secondary education are essential. The programs, the environment, and the psychology behind the decisions made by the adult learner are major aspects of the process. Rutschow and Crary-Ross (2014) understood that adult learners receive workforce education through these transition programs that were essential to career choices. Many career-training opportunities consist of group presentations, individual career counseling, and student completion of career inventories. However, some adult transition programs use contextualized curricula in which instructional materials in reading, writing, and mathematics are presented within the context of specific careers in fields such as business or health care. According to Sticht (1997), appropriate instruction has been a long-held tenet of adult education learning theory, as this approach is thought to provide more curricular relevance for the learner.

Martin and Broadus (2013) suggested that contextualized instruction engages students in the learning process, which increases the rate of student success in education. Contextualized adult education transition programs often presuppose that students already have a strong desire to enter a career. Point of reference is the grant-funded Texas IP-AES programs chose not to use this approach. Rutschow and Crary-Ross (2014) when adult transition programs are located on community college campuses, the postsecondary environment is beneficial. This exposure can help students' transition to college by bridging the gap in the new setting. These students have access to libraries, computer labs as regularly enrolled students. College tours can assist students from off campus as well.

There can be psychological effects on the choices that some students make or fail to consider after completing secondary education. Career and Technical Education programs are

considered to produce vocations, e.g., plumbers, carpenters, electricians, referring to lower skilled occupations whereas a business tends to be associated with occupations by knowledge base made up of abstract concepts and theories (Wolf, 2015). work-based learning is not a new concept. It is being applied again in the high school agenda.

Amos (2012) revealed that there were three key reasons for the renewed emphasis in workforce education: better attention to the job skills alignment of education and labor market needs; the crisis in college costs to the economic return of a degree; and growing knowledge from the fields of brain science, achievement motivation, and adolescent development. These reasons confirm that high school students engage and flourish when their learning provides them with, from the perspective a window to the adult world by blending academic and applied to learn through the introduction of apprenticeships, project-based learning, and other real-world applications.

Skills Gap

How can industry partnerships be developed to make substantive employment pathways line up with employer needs that offer a clear sequence of coursework, credentials, and job placement in high-demand sectors? This skills gap has led many economic and political leaders to look to sectoral industry partnerships, such as those fostered by the National Fund for Workforce Solutions (Spangler & O’Sullivan, 2017). Such industry partnerships depend on the sustained engagement and leadership of a group of employers in a sector who identify specific, shared needs for worker skills, certifications, and credentials, and then collaborate with education and training providers to make sure their programs align closely with actual industry demand. Such partnerships are successful when they provide employers with the best possible candidates for specific employment opportunities.

This group of disconnected youth, a group now regularly referred to as opportunity youth because they are seeking opportunity and because they represent an incredible opportunity to the nation if we choose to invest in them, can benefit from continuing their education and developing the skills needed for successful entry into the workforce. This population of disconnected youths (16-24 years) makes up approximately 17% (1.292 million) are neither working nor in school, with only half have high school credentials, and the other half have not completed high school. (Grobe, Martin, & Steinberg, 2015, p. 2)

The opportunity youth are a problem of a long-standing question faced by employers and elected officials, is where is the source of the future skilled workforce that will fuel the economy? Employers are struggling to identify skilled workers to fill entry-level vacancies in high-demand sectors. Middle-skill jobs (in computer technology, nursing, and high-skill manufacturing), which require some postsecondary technical education and training—and will account for nearly half of all new job openings in the next decade are in particularly high demand. Many employers indicate they have difficulty filling job vacancies due to applicants with insufficient experience and substandard work ethics.

This skills gap can lead many business leaders to use sectoral industry partnerships. Such industry partnerships depend on the sustained engagement and leadership of a group of employers in a sector who identify specific, shared needs for worker skills, certifications, and credentials, and then collaborate with education and training providers to make sure their programs align closely with actual industry demand. Partnerships succeed when they provide employers with qualified candidates for employment opportunities.

Career-Focused Education

Often this term can mean that a student is being prepared for career and technical education careers. Van der Velden's (2006) intent is to get students exposed to the working world. Whether interest is in vocational or academic tracks. The more exposure a student has received, the better it will help in developing the interest level as well as establishing full knowledge of the requirements within different career fields.

Approaches to providing a focused career education is a challenge that varies from state to state throughout the United States. Curriculum specifications may be regional or driven by industry or based on national forecasts for a specific profession. The linkages between governments and industry are vital in developing career-focused education for the future workforce. Building a strong foundation in math and sciences is a good start for any profession, whether career and technical or for physical sciences.

Pursuing a specific career track and succeeding in a career may not be an easy process. Going through the process of learning and gaining the right credentials may not be the secret, either for success. Learning has become a lifelong process of gaining the proper education and training needed in a career (Parker, Hall & Kram 2008). Recognized that there was a process to better ensure success for young professionals in the workforce through mentoring; first: building the developmental relationship, then: creating success, and finally: internalizing the skills. This concept was consistent with the apprentice model.

One of the challenges that managers now face is how to promote learning, growth, and development for themselves and others. Life-span issues of adulthood mean that career learning has moved from a one-time education credential to an ongoing lifelong process that underpins a range of career education issues including preparing for the world of work, transitioning in the

job, losing work, and adjusting to changed circumstances (Guindon & Richmond 2008).

Learning and work must be balanced into a cyclical supportive process to enable people to acquire all the knowledge, values, skills, and understanding they will require throughout their lifetimes (Stewart & Ball 2008).

Student-directed instruction is one way to foster these kinds of cross-disciplinary skills. Adult education classes may primarily use traditional lecture pedagogy, and instructors in adult transition programs are likely to use multiple instructional methods, including engaging students in the learning process. Types of instruction include group learning, peer review, project-based learning, research assignments, and portfolio development (Rutschow & Crary-Ross, 2014).

Workforce Solutions

Many organizations, both for-profit and nonprofit, have taken the initiative to find solutions to achieve quality and trained workforce for many industries. The National Fund for Workforce Solutions is a national network and one organization that met that intent. It promotes economic opportunity and community prosperity through investment and innovation. The National Fund partners with philanthropy, employers, workers, public and private community organizations, regional collaborative to invest in skills, improve workforce systems, and generate good jobs in multiple industries based on need and resources available to support the requirement. Through these partnerships, healthy relationships are needed to solidify meaningful programs that provide their intended purpose. The solutions to these needs were established by The National Fund (Spangler & O'Sullivan, 2017):

Strategies for Building a Young Adult Sector Model Form Partnerships with Key Stakeholders

1. Who: A trusted intermediary

- Convene partners, e.g., youth-serving community-based organizations (CBOs), education/training institutions, employers, workforce systems, public care agencies, others
 - Identify specific roles for partners
 - Guide the process and hold partners accountable Plan the Sectoral Approach
2. Who: The intermediary, workforce system, and other designated partners
- Analyze regional labor market information and young adult demographics
 - Build relationships with employers in sectors identified as targets for the strategy
 - Select sectors based on data, knowledge of employer needs, and capabilities of the target youth population
 - Explore and secure funding to support sector strategy
 - i. Develop the Program
3. Who: The intermediary, training institution, employers, the workforce system, and CBOs
- Identify and map all elements of the program and determine roles for each partner
 - Develop supports necessary for success, for both YA participants and employers
 - Review partner capacity and strengthen as needed Recruit, Enroll and Prepare YA for Sectoral Training Who: CBOs or other designated partners
 - Recruit and assess potential participants re. Basic skills, work readiness, barriers, and so on.
 - Expose participants to the sector and occupations to gauge interest and fit
 - Provide basic skills remediation, as needed

- Strengthen readiness through work experience (e.g., job shadowing, internships, supported or transitional employment), service projects, and project-based learning Train YA for the Identified Sectoral Job(s)
4. Who: The training partner, with support from CBOs and employers
- Provide bridging/transitional support as trainees adjust to programming requirements
 - Deliver occupational training and skills development consistent with sector requirements, ideally yielding marketable credentials
 - Provide additional academic skill building, as needed
 - Connect participants to part-time work experience in related fields Place, Retain, and Advance YA in Jobs Who: The intermediary, employers, CBOs, and training institutions
 - Place training completers in jobs, consistent with their preparation and with employers' needs
 - Conduct regular check-ins with employers and young workers, which can diminish over time
 - Offer young workers access to ongoing skill building and credential attainment, to promote career advancement
 - Connect young workers to alumni supports and peer group activities
 - i. Provide Ongoing; Tailored Supports across the Continuum of Preparation, Training, and Placement
5. Who: The intermediary, CBOs, and other designated partners

- Build relationships between participants and caring adults throughout their program experience
- Identify and address barriers to participants' success
- Offer career counseling and navigation. (p. 16)

In the retail industry, both the Employer Leadership Council and the Foundation for the National Retail Federation programs provide exposure, education, and training for high school students interested in the retail industry. According to the National Retail Foundation (2000), the retail industry was over a three trillion-dollar industry in sales within the United States.

Maintaining well-trained staff is essential in the retail industry in the 21st century. Innovations in the retail industry call for a staff that can quickly adjust to trends and changes in the market economy that can affect customer demand.

Resources are available and necessary for training in the retail industry. Employers can use a multi-faceted approach to determine if the retail industry is an appropriate fit for a student. The National Retail Federation has recognized three methods for employers to use in pursuing future students for the retail industry which are career awareness, career exploration, and career preparation (National Retail Foundation, 2000). Career awareness opportunities may be offered by an employer providing career talks to students to enlighten them on the many opportunities in the retail industry. Secondly, employers can provide career exploration options to students through job shadowing in specific fields of interests by the student. Another option for employers may be provided through career preparation opportunities to students via apprenticeships, internships, or by providing a mentorship program between trained staff and potential students. These options have served as a bridge between the retail industry and the student population to strengthen the retail industry better. They also provide a significant

pathway for students leaving high school to begin a career. Student achievement and social competence improve when schools, family, and communities work in harmony to promote student success (Epstein & Hollifield, 1996; Epstein & Sanders, 2000; Sanders, 1996, 2001; Sheldon & Epstein, 2005).

High School Dropouts

The Workforce Investment Act Programs can assist dropouts with transitions into the workforce. The program attempts to empower indigent youth and adults to increase employment, retention, and earnings of participants. The trade-off of leaving government dependence for skilled labor for the U.S. economy is the intent. Programming typically entails a full array of workforce development services that are free to participants. Workforce Investment Act Programs may also include high school proficiency exam preparation, credit retrieval. All Workforce Investment Act Programs are characterized by three broad categories of services: core services, intensive services, and training services:

- Core services are available to all. They include assessment, job search and placement assistance, career counseling, labor market information, and support services like childcare and transportation assistance.
- Intensive services generally follow. These include a comprehensive assessment of the individual's skill level and service needs, the creation of an individualized employment plan, individual and group counseling, career planning, and prevocational training such as basic computer classes.
- Training services are provided to selected individuals desiring or needing training to become employed in a demand occupation. These may include occupational skills training, on-the-job training, retraining, entrepreneurial training, literacy activities, or

other customized training (Saddler, Tyler, Maldano, Cleveland, & Thompson, 2011, p. 39).

It becomes clear that without high school completion, youth are less likely to succeed economically and they are more likely as dropouts to contribute at a higher percentage rate to the nation's institutionalized population (Aud et al., 2011). There is a critical need to identify solutions to the unemployment of high school dropouts. When a student does not complete secondary school, the economic and social impacts are almost always negative. The public loses resources in the areas of a weakened labor market and a cost to social benefits that are paid out. Casey and McSwain (2011) understood that those dropouts were also less able to contribute to the tax base, costing additional billions in lost tax revenue. Laird, DeBell, and Chapman (2006) suggested that in the past decade, approximately 4 million dislocated youth, ages 16 through 24, were not enrolled in high school and had not earned a diploma or alternative credential.

Wakefield, Sage, Coy, and Palmer (2011) indicated that those dropouts accounted for over 10 percent of the United States population and represented a calculable financial loss for those youth and society. In today's growing global economy, those who do not complete high school lack many of the requisite skills, particularly basic literacy skills.

According to the Alliance for Excellent Education (2011), high school dropouts are 72% more likely to experience unemployment than are their credentialed counterparts that complete high school. Additionally, the Alliance for Excellent Education estimated that over 10 million students would prematurely leave school during the next decade without receiving a diploma.

Dorn (1996) reported that the time when an unskilled laborer could easily obtain employment is rapidly disappearing. Technological improvements are quickly making unskilled

positions obsolete, and a growing number of companies require a high school diploma for employment. Peers, parents, and schools all contribute to a student's decision to leave high school early and enter the labor force without the tools to achieve success.

The second chance systems for adults with limited skills, such as adult literacy and job training programs, are generally not very effective in connecting participants to postsecondary education and careers. Because states and localities have primary responsibility for funding and governing education, social services, workforce, and economic development, they hold considerable power to push for positive changes in how these systems work together. The stakes are high for them to find strategies that maximize the impact of these resources on labor market outcomes for individual residents and economic development for localities. Moreover, since the social health of communities is strongly associated with the education levels of their residents, states and regions also have within their control, a key mechanism for ensuring their social vitality. (Jenkins & The Workforce Support Center, 2006, p. 4)

Many programs across the nation, within many states, have experienced disconnects when trying to enable young adults' viable employment in desired career fields. Some of these disconnects revolve around the following:

1. **Disconnected Systems.** The existing systems in the U.S. that prepare youth and adults for employment are generally characterized by numerous disconnects among programs at different levels and between programs and the labor market. Here are just a few examples:
2. **Secondary and Postsecondary curricula** typically are not aligned, and few high school students are exposed to postsecondary education and careers in knowledge fields. The

result is that too many students leave high school both unprepared and lacking clear direction for careers and postsecondary learning.

3. Adult basic skills programs which should prepare adults to improve their basic skills and earn a GED, and college remedial or “developmental” programs, which are intended to help students place into college-level math and English, are not adequately preparing students to succeed in postsecondary technical education.
4. Traditional seat time model. The awarding academic of credit and inflexible academic calendars make it difficult to respond flexibly to the learning needs and schedules of working adults and their employers. Colleges generally find it difficult to use non-credit programs to complement and connect with degree-credit programs.
5. Funding formula based on enrollments makes it challenging to sustain high-cost technical programs, particularly in a time of limited budgets and diminishing public support—even when such programs are essential for helping students achieve their career goals, meeting employers’ hiring and training needs, and promoting local economic development goals.
6. Postsecondary occupational degree programs often lack strong mechanisms for building ongoing relationships with employers, which are essential for ensuring that programs are effective in preparing students for employment or job advancement.
7. Few educational institutions can track the labor market and further education outcomes of their students, and many of those that do so fail to use this information to improve outcomes for students.

“These disconnects create barriers to education and career advancement for students and others, and they lower the return on the public’s investment in education and other services” (Jenkins & The Workforce Support Center, 2006, p. 5).

Addressing Social Economic Status and State Programs

Low socioeconomic status (SES) is a key variable that has a strong influence on student learning (Berliner, 2006; Noguera, 2011; Sheehan & Rall, 2011; Tajalli & Opheim, 2004). McGee (2004) notes that while effective schools collaborate with their communities, the relationship becomes strained by poverty. Socio-economic status can be defined as a measure of one's combined economic and social status (Campbell, 2013). Socio-economic groups are broken into groups by income earning levels; of low, medium, and high, with many state-led workforce education programs geared toward citizens living in low SES levels. Having access to resources such as knowledge of where opportunities are needed in a given industry or workforce education through job training programs or postsecondary education is beneficial for a career opportunity. Secondly, knowing where the economic opportunities are in society is equally rewarding, and that is where social capital catalyzes relationships and upward mobility. Hoffman and Schwartz (2017) described social capital as “networks together with mutual norms, values, and understandings that enable collaboration within or among groups. It is defined as “concentric circles or networks composed of bonds, bridges, and links, with the connections between each moving from family and close friends, to distant friends and colleagues, to those further up or down the social ladder” (Hoffman & Schwatz, 2017, p. 74). Social capital can be the kinds of experiences that affluent families provide for young people through their networks, enrolling their children in enriching experiences, and supervising or guiding them through high school, college admissions, the college years and beyond. According to sociologist Adam

Gamoran, maximally maintained inequality is a process by which privileged groups take advantage of expansion to promote the interest of their children and maintain relative advantages over less privileged groups (Hoffman & Schwartz, 2017). Herman van de Werfhost (2014) believes in our global society there are challenges our educational systems are facing as a consequence of the following three areas of social change: labor markets, a quest for selection and excellence; and increasingly diversified and individualized student bodies.

These social networks can and may lead to more and economically upward opportunities depending on the social networks established within a specific group of people. These ties can be largely determined by who is within the network. A social, economic status can be a critical factor in determining ones' social capital. Social networks can be developed both positively or negatively over time. The positive networks can lead to prosperity, and the negative linkages can lead to unmet expectations. Long-lasting positive networks are the goal of any meaningful, productive relationship. Addressing greater opportunities for individuals in lower income status will need to be dealt with on a local and national level. Career pathway development can be one of several ways to address this problem. Using in-depth interviews with fifty-five 11-year-olds and 14-year-olds, of whom half were from low-income families and the other half from more affluent families, Wikeley, Bullock, Muschamp, and Ridge (2009) found that while youth from low-income circumstances participate less in out-of-school activities, all young people gained in their relationships with adults due to participation in formal, organized activities.

The state of Arkansas is using a developmental education approach to enhance the workforce through a career pathways initiative that aims to provide much-needed education and job training for the low socio-economic population in the state. These developmental programs

are designed to provide a strong foundation in the areas of math, reading, and writing in adults to better equip them for the 21st-century workforce.

Vital components of the Career Pathway Initiative model are strategic partnerships, with employers, government agencies, and community-based organizations. Partnerships with employers ensure that the skills taught are the skills required by business and industry. Skills are validated by a national job or task analysis and match specific job profiles in the local market. Partnerships with employers provide internships and on-the-job training opportunities for students and facilitate job placement. Partnerships with government agencies and faith-based organizations serve to connect students with resources. To facilitate partnerships with employers, agency, and faith-based organization, representatives are invited to participate in the Career Pathway Advisory Board and are consulted for program and career pathway development. (Carroll, Kersh, Sullivan, & Fincher, 2012, p. 747)

The states of Illinois and Wisconsin have adopted or applied for a workforce development program through the Joyce Foundation, known as Shifting Gears (Bragg, Dresser, & Smith, 2009). The programs were initiated in 2007 and focused on lower skilled, lower income and undereducated adults that were needed to obtain targeted college-level credentials in the mid-western region of the United States. A collaboration of experts from the Joyce foundation worked with public agencies and local government staff to guide the intent of the program and proper administration of it to the targeted population (Bragg et al., 2009). Training and education occurred at community colleges in both states with an emphasis on math, reading, and writing skills. The program used a multi-tiered approach with the task of reaching the intended population. The four core strategies of Shifting Gears were followed:

1. Policy change to leverage improvements in systems and institutional practice
2. Data utilization to measure and foster improvements in policy and practice
3. Stakeholder engagement to generate ideas and buy-in for systems and institutional change
4. Strategic communications to cultivate stakeholder support for systems and institutional change (Bragg et al., 2009, p. 54).

Career pathways provided instruction that enables students to progress from one level of education to the next, offering industry-recognized credentials at critical milestones that lead to an associate or baccalaureate degree. Several bridge programs were established which sought to move students from development education to college-level course work or sought to transition students from adult education to postsecondary education, including offering instruction for English- language learners (ELLs). These programs were implemented at ten sites that included three colleges that are part of the City Colleges of Chicago and seven other community colleges located in the Chicago metropolitan area as well as the central and southern regions of the state to serve that largest demographic of the targeted population.

Simultaneously the Shifting Gears initiative in Wisconsin had similar plans, but the strategy was slightly different based on factors germane to the state of Wisconsin. According to Bragg et al. (2009):

The Wisconsin Department of Workforce Development and the Wisconsin Technical College System, with funding from the Joyce Foundation and in partnership with Workforce Development Boards, the Center on Wisconsin Strategy, and others, have engaged in a multiyear system reform effort designed to institutionalize career pathways and bridges across the state's adult education and training systems. The effort is named

Regional Industry Skills Education (RISE), and it seeks to support an array of career pathways and bridge programs with the following benefits for specific target audiences:

- For low-income adults: higher skills and better jobs through more accessible and navigable training and career-advancement systems
- For employers: a reliable supply of workers whose skills are geared to industry needs
- For workforce training and education: more effective engagement with industry and more efficient alignment of resources. (p. 59)

In the state of Texas, some success was documented in a program that managed enrollment and accelerated instruction, which was called the Texas Intensive College Readiness Programs for Adult Education students (IP-AES). The State of Texas program used five locations, two small on and off college campus settings, two mid-sized on and off college campus settings, and one large metropolitan town college campus setting. Demographics of those attending the program were 60 percent Hispanic, 13 percent Caucasian, 12 percent African American, and 15 percent unknown. Rutschow and Crary-Ross (2014) stated that “Unlike many adult education programs, which allow continuous open entry into classes, adult transition programs typically operate under a closed-enrollment system, whereby students must enter and exit the program during specified periods” (p. 305). This policy allows instructors to present sequenced lessons of a set curriculum to students. It also promotes the formation of student cohort groups, which often leads to strong participant bonding, with students using each other as resources both inside and outside the classroom. Research from regular college environments shows increased student persistence and academic performance for such models (Tinto, 2003). The Texas program was a closed program as well with 8 to 10-week sessions for 120-140 hours

over the training period. Furthermore, Imel (2002) reported that “cohort members engage in critical reflection and transformative learning in adult education settings” (p.305).

Adult transition programs also tend to have an intensive (e.g., 120 contact hours) but accelerated (10 weeks or fewer) instructional schedule, unlike traditional adult education programs, which can occur in semester-based units. The accelerated timeframe of transition programs can mitigate some of the barriers adult learners often face, in intensive programs and parental responsibilities Rutschow and Crary-Ross (2014), thereby potentially increasing retention rates of participants. Attrition in adult education programs can be caused by many things. Comings, Parella, and Coricone (1999) reported that there were high participant attrition rates for longer adult education programs (e.g., yearlong). However, there is not a prescribed length of time for instruction needed to affect specified gains in achievement within different disciplines for adult learners at varying skill levels, Rutschow and Crary-Ross, (2014). Therefore, more research is needed to determine the optimal number of student contact hours for each subject to both enhance program retention and promote achievement. The results of the program were 86 percent success rate or 207 of 240 completion rate. These students were at or near the college entry level without needing to take remediation classes once arriving on a college campus for higher education programs, according to Kallison (2002).

Summary

This chapter presented an overview of the literature related to research questions that were used for this study. The basis and mission for workforce education was the starting point. Subsequently, discovering the origins of America’s workforce education led to the nation’s mission. The mission has evolved over time through federal policy. Those federal programs addressed the needs of individuals across the nation with regional concerns at the state level to

compete globally from a skills perspective. The policy was developed through dialogue among business leaders, partners, and elected representatives with the intent of being beneficial to individuals.

Also addressed was the need to reinforce the importance of workforce education down to primary and secondary school level as early as possible to get individuals oriented to the world of work. Lacking a secondary education has shown to be a major factor in an individual's ability to move from low socio-economic status to better living. Many strategies across the nation have been implemented to address the skills gap in the knowledge economy. This is being accomplished through programs by the federal and state governments, such as bridge programs, on-the-job-training, apprenticeships programs, and intensive postsecondary programs.

Chapter III: Methods

This chapter addresses the methods used to answer the research questions for this study. Existing data were used to examine the current employment status of young adults and the postsecondary education level of those young adults. Secondly, it also examined the current employment status and the status of young adults that had not completed high school to those young adults that had completed high school. Finally, there was an examination of the relationship between the socio-economic status (SES) of young adults and the employment status.

Purpose of the Study

The purpose of this study was to examine the anticipated impact of workforce education efforts and the use of career pathways for young adults during secondary and postsecondary years. This study examined the employment status of young adults based on postsecondary education activities. Secondly, it examined the current employment status of adults with and without a high school diploma. Finally, this study examined whether an individual's socio-economic status affected the attainment of full-time employment.

Research Questions

The following research questions were used in this study:

1. What is the current employment status of young adults based on postsecondary education levels?
2. What is the current employment status of young adults who have or have not graduated from high school?
3. What is the relationship between socioeconomic status (SES) and full-time occupational attainment of young adults?

Methods

Research questions relative to this study were answered using data from the Education Longitudinal Study (ELS 2002). Archival data from the National Center for Education Statistics public website (<https://nces.ed.gov/OnlineCodebook>) were used for a descriptive and inferential (chi-square) statistical analysis. The first question was to determine the current employment status of young adults based on postsecondary education levels and used descriptive methods. The second research question was to determine the current employment status of young adults who had and had not graduated from high school. The descriptive methods tests aims to summarize a sample, rather than use data to learn about the population (main features of a collection of information). The third research question was to determine the relationship between socioeconomic status and full-time occupational attainment of young adults. These two nominal categories of socioeconomic status and employment are nominal data with no rank or order. Chi-square categorical data tests for correlation or associations of the two coefficients. All studies conducted by the National Center for Education Statistics (NCES) studies are established in the descriptive methodology with modifications by researchers being made as necessary to fit appropriate studies.

Existing Data

Results from the ELS 2002 study had surveyed students during the sophomore year of high school in 2002 with three subsequent follow-ups over ten years. Major areas within the report were the base year data points which were: social background, home educational support system, school and classroom characteristics, postsecondary choice and enrollment, employment, and outcomes. All data were gathered from the NCES website from various subsections to

answer the research questions for this study. The following were data points from the ELS study that were used for this study:

- Base Year (2002)
- Baseline survey of high school sophomores, in the spring term, 2002.
- Cognitive tests administered in reading and mathematics.
- Questionnaires administered to parents, math and English teachers, school principals, and heads of the school library media center.
- Sample sizes:
- Seven hundred fifty schools (questionnaires: principals, head librarians or media center directors; facilities checklists completed by survey administrators).
- Over 15,000 students and their parents.
- Mathematics and English teachers—one each for each student.
- Schools selected first, then tenth-grade students selected randomly within each school.
- Non-public schools (specifically, Catholic and other private schools) sampled at a higher rate, ensuring that the sample is large enough to support comparisons with public schools.
- Asian students sampled at a higher rate than White, Black, or Hispanic students, ensuring that the sample is large enough to support comparisons with those groups.

ELS: 2002 began with a representative sample of high school sophomores. The ELS: 2002 study was freshened in 2004 to be a fully representative sample of high school seniors. Freshening refers to including seniors who were not in the U.S. in the previous two years (for example, students who were out of the country or in another grade sequence because of skipping or failing a grade). These seniors were given a chance to participate in the survey.

First Follow-up Transcript Study (2006). Thus, the First Follow-up results both continued the longitudinal sample of spring 2002 sophomores and represented all the nation's spring term 2004 high school seniors.

High school transcripts were collected for all students from their base school year and if they had changed schools, their transfer schools. These transcripts provided school archival records on courses completed, grades, attendance, and SAT/ACT scores from grades 9 through 12.

Second Follow-up (2006). The Second Follow-up occurred in 2006, when many students were in college for up to their second year of enrollment, while others were employed and may not have ever attended college. Some who had previously dropped out of high school, may have earned a General Education Development (GED) or other equivalency certificate, or could have been working on a GED. All participants who were respondents in the Base Year and the First Follow-up were included. Additional information was obtained from other participants using web-based self-administered interviews, computer-assisted telephone interviews, or computer-assisted personal interviews.

Follow-up (2012). One additional follow-up was conducted in 2012, was six years after the Second Follow-up and eight years after high school graduation. Retrospective data on the college enrollment and employment histories of sample members were collected, along with information about their marital status, families, and participation in the community. College transcripts showing all courses completed for each college attended and student financial aid data for all years of college from all sources were also obtained (The National Center for Education Statistics, 2012).

Procedures for Data Collection and Analysis

The research questions were answered using archival data that was de-identified, existing, and publicly available. The specific websites and links that were used to answer each research question were as follows:

- a. To download the data files, the following link was used: <https://nces.ed.gov/OnlineCodebook> and then the tour option was used. The tour provides instructions on how to access the files for the ELS 2002 database. Once the database was accessed, the appropriate terms were placed in the search bar.
- b. Next, the defaults were selected for the first two boxes, then in the third box the word “Employment” was selected by clicking on enter and scrolling down to find the employment status for June 12 (2012), third follow up. These steps and access to the data were used for the employment status to answer all three research questions.
- c. Next, the compare tab at the bottom right of the page was selected to obtain the “raw data” for the variable (Employment). The data were entered into SPSS for computation.
- d. The same process was repeated for the second variable for the first research question which was “postsecondary education status.”
- e. The raw data could also be accessed through the following link: <https://nces.ed.gov/datalab/index.aspx>

Research Question 1

ELS 2002 responses were used to answer Research Question 1: What is the current employment status among postsecondary education levels of young adults? Specific survey items that identified employment status consisted of the following:

1. Working one fulltime job greater than 35 hours

2. Working a fulltime job greater than 35 hours, plus one or more jobs
3. Working two part-time jobs less than 35 hours each totaling 35 hours per week
4. Working one part-time job less than 35 hours per week
5. Working two part-time jobs less than 35 hours per week
6. Unemployed
7. Out of the labor force

The survey item used for the second variable, postsecondary education level, was the following:
Percentage of those that ever attended a postsecondary institution.

Research Question 2

Responses from the ELS 2002, third follow-up were used to answer Research Question 2.

What is the current employment status of young adults who have or have not graduated from high school? Specific survey items that identified employment status consisted of the following:

1. Working one fulltime job greater than 35 hours
2. Working a fulltime job greater than 35 hours, plus one or more jobs
3. Working two part-time jobs less than 35 hours each totaling 35 hours per week
4. Working one part-time job less than 35 hours per week
5. Working two part-time jobs less than 35 hours per week
6. Unemployed
7. Out of the labor force

For the second variable, graduated from high school or not graduated from high school, the words “high school status” were selected and placed in the search box. Specific survey items that identified No High School credential or High School credential status consisted of the following:

1. No – High school credential – No postsecondary attendance

Research Question 3

Responses from the ELS 2002, third follow-up were used to answer Research Question 3. What is the relationship between socioeconomic status (SES) and full-time occupational attainment of young adults? The same process was used as indicated in Research Questions 1 and 2 for the employment variable. For the second variable, socioeconomic status (SES), the words “public assistance” were selected and placed in the search box. Specific survey items that identified employment status consisted of the following:

1. Working one full-time job greater than 35 hours
2. Working a fulltime job greater than 35 hours, plus one or more jobs
3. Working two part-time jobs less than 35 hours each totaling 35 hours per week
4. Working one part-time job less than 35 hours per week
5. Working two part-time jobs less than 35 hours per week
6. Unemployed
7. Out of the labor force

Categories for the second variable (socio-economic status -SES) were the following:

1. Lowest quartile
2. Second quartile
3. Third quartile
4. Highest quartile

Data Analysis

Descriptive and chi-square with categorical data statistical methods were used to analyze the results. Descriptive methods examined the mean, median and mode of the collection of data,

were used for the comparisons between current employment levels for postsecondary education levels, and current employment levels for young adults that had graduated and had not graduated with a high school diploma. Whereas, chi-square with categorical data statistical method examined the comparison of the distribution of the categorical data set was used to determine the relationship between social, economic status and the attainment of full-time employment.

Summary

This chapter provided an overview of the methods used to provide the findings for the research questions for this study. To answer the research questions for this study, the results from the ELS 2002 survey were used.

Chapter IV: Results

The findings in this study and data analysis for each research question are addressed in this chapter. Descriptive statistics methods were used to determine the current employment status among postsecondary education levels among young adults, and to determine the current employment status for young adults with and without high school completion. Secondly, Chi-squared, categorical methods were used to determine the relationship between socio-economic status (SES) and full-time occupational attainment. This chapter contains the results of the data analyses. An analysis of each research question follows.

Purpose of the Study

The purpose of this study was to examine the anticipated impact of workforce education efforts and the use of career pathways for young adults during secondary and postsecondary years. This study examined the employment status of young adults based on postsecondary education activities. Secondly, it examined the current employment status of adults with and without a high school diploma. Finally, this study examined whether an individual's socio-economic status affected the attainment of full-time employment.

Research Questions

The following research questions were used in this study:

1. What is the current employment status of young adults based on postsecondary education levels?
2. What is the current employment status of young adults who have or have not graduated from high school?
3. What is the relationship between socioeconomic status (SES) and full-time occupational attainment of young adults?

Results Based on Research Questions

Research Question 1: What is the current employment status of young adults based on postsecondary education levels? This study examined the employment status of young adults that received postsecondary education. Secondly, it examined the current employment status of adults with and without a high school diploma. Finally, this study examined whether an individual's socio-economic status affected the attainment of full-time employment.

Tables 1 and 2 displays the positive analysis that young adults with postsecondary education have a higher fulltime employment status than young adults without postsecondary education. Approximately 47percent of young adults with postsecondary education had fulltime employment to that of those without postsecondary education. Figure 1 graphically illustrates how significant the gap is between having or not having postsecondary in achieving fulltime employment status.

Results using descriptive statistics are shown in Table 1. The average current employment status for young adults with postsecondary education was 2.76 (SD 3.80), $p=1.38$, for a population of 16,197. Table 2 shows the current employment status to the education level by category. Figure 1 displays a graph of current employment level by postsecondary education acquired.

Table 1

Current Employment Status of Young Adults by Postsecondary Education

		Employment status as of the F3 interview	Postsecondary enrollment status as of the F3 interview	Number of weeks employed during 2011
N	Valid	16197	16197	16197
	Missing	0	0	0
	Mean	1.21	2.67	26.98
	Std. Deviation	3.407	3.798	25.424

Table 2

Current Employment Status of Young Adults based on Postsecondary Education Levels

		Frequency		Valid Percent	Cumulative Percent
Valid	Survey Component Legitimate skip/NA	459	2.8	2.8	2.8
	Nonrespondent	2488	15.4	15.4	18.2
	Working one FT job (≥ 35 hrs/wk)	7604	46.9	46.9	65.1
	Working a FT job (≥ 35 hrs/wk) as well as 1 or more other job(s)	1299	8.0	8.0	73.2
	Working 2+ PT Jobs (< 35 hrs/wk each) totaling 35+ hrs/wk	266	1.6	1.6	74.8
	Working one PT job (< 35 hrs/wk)	1482	9.1	9.1	84.0
	Working 2+ PT jobs totaling, 35 hrs/week)	229	1.4	1.4	85.4
	Unemployed	1395	8.6	8.6	94.0
	Out of the labor force	975	6.0	6.0	100.00
	Total	16197	100.0	100.0	

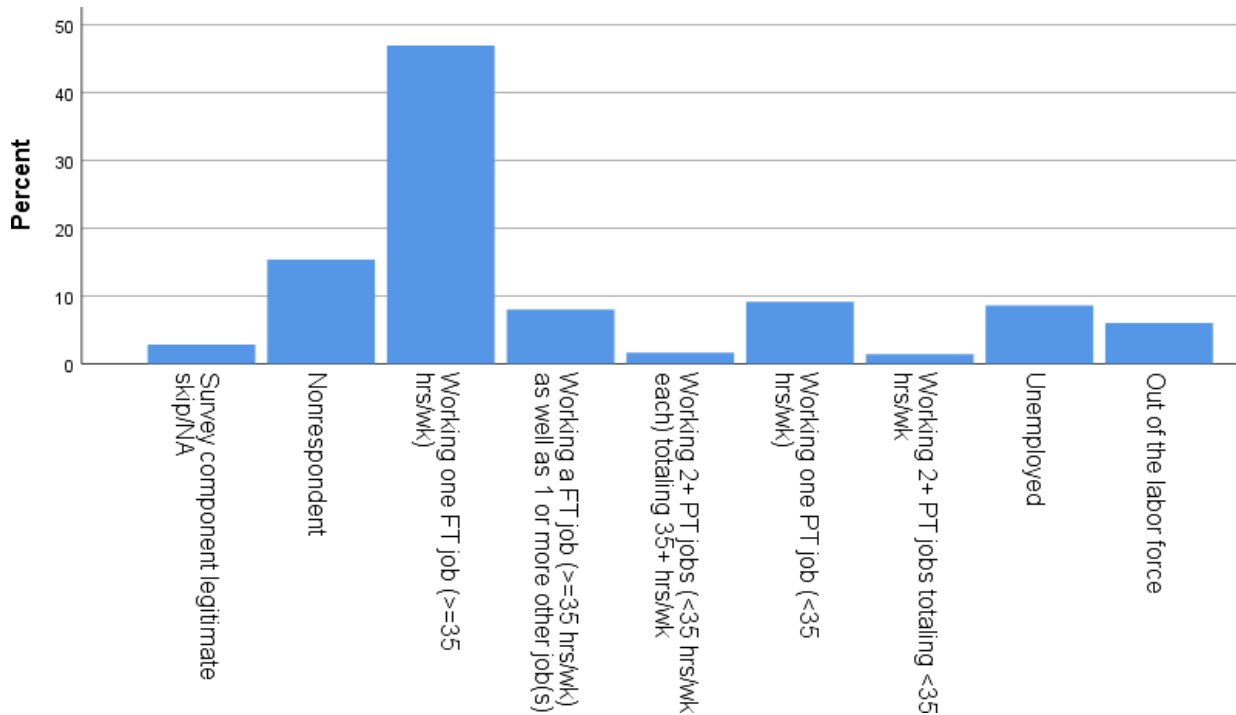


Figure 1. Current employment status among of young adults based on postsecondary levels

Research Question 2: What is the current employment status of young adults who have or have not graduated from high school? Tables 3 and 4 shows a negative correlation between young adults that have not completed high school that are seeking fulltime employment compared to those young adults that graduated from high school and were seeking fulltime employment. Approximately 94 percent of young adults that graduated from high school attained fulltime employment compared to four percent of young adults that did not graduate from high school and attained fulltime employment.

The results, using descriptive statistics shown in Table 3, were the current employment ($M = -2.45$, $SD = 1.99$), and dropout status of ($M = .30$ and $SD = .964$), $p < .1.03$. There is not association in this relationship. The average young adult that does not complete high school has a current employment status of 1.03. Table 4 illustrates that full-time employment for young

adults that have dropped out of high school is 3.7 percent and 1.8 percent for those working one full-time and one part-time job.

Table 3

Mean and Std. Deviation of Dropout Status among Young Adults

	N	Min	Max	Mean	Std. Deviation
F2 dropout status (as of 2006 interview)	16197	0	5	.30	.964
Employment status – 2006/01 (January 2006)	16197	-9	8	-2.45	1.992
Valid N (listwise)	16197				

Table 4

Current Employment Status of Young Adults that Graduated from High School

		F1 Dropout Status						
Survey Component		Not dropout/ alternative completer	Dropout	Alternative Completer	Student/prior school report of dropout	Out of Scope	Total	
			Count	392	28	4	8	27
Legitimate skip/NA	% within employment status as of the F3 interview	85.4%	6.1%	0.9%	1.7%	5.9%	100.0%	
	% within F1 dropout status	2.6%	3.3%	3.0%	3.8%	27.3%	2.8%	
	% of total	2.4%	0.2%	0.0%	0.0%	0.2%	2.8%	
Non respondent	Count	2207	194	18	37	32	2488	
	% within employment status as of the F3 interview	88.7%	7.8%	0.7%	1.5%	1.3%	100.0%	
	% within F1 dropout status	14.8%	23.0%	13.4%	17.5%	32.3%	15.4%	
	% of total	13.6%	1.2%	0.1%	0.2%	0.2%	15.4%	
Working one FT job (≥ 35 hrs/wk)	Count	7157	284	61	84	18	7604	
	% within employment status as of the F3 interview	94.1%	3.7%	0.8%	1.1%	0.2%	100.0%	
	% within F1 dropout status	48.0%	33.6%	45.5%	39.8%	18.2%	46.9%	
	% of total	44.2%	1.8%	0.4%	0.5%	0.1%	46.9%	
Working a FT job (≥ 35 hrs/wk)	Count	1228	46	5	19	1	1299	
	% within employment status	94.5%	3.5%	0.4%	1.5%	0.1%	100.0%	

as well as 1 or more other job(s)	as of the F3 interview % within F1 dropout status % of total
---	--

Research Question 3: What is the relationship between socio-economic status (SES) or disadvantaged population and fulltime occupational attainment of young adults?

Tables 5 and 6 provided results pertaining to the nominal variables of SES and Employment, using a Chi-squared categorical data test. In Table 5, These results mean that there was a correlation (association) between individuals living in low SES and the ability to attain full-time employment. If there was not a relationship the expected count is what would be observed. The expected count was different from the observed count which means there is a correlation or an association between the two variables for individuals living in low SES which was 41percent, with the second and third quartiles at 45 and 48 percent and the highest quartile at 52 percent, attaining full-time employment.

Table 6 displays the results for Chi-square test and symmetric measures. Results were $X^2= 503.952$, (df) 40, $p= .001$.

Table 5.
Relationship Between Socioeconomic Status and Full-Time Occupational Attainment of Young Adults

The relationship between SES and the attainment of FT employment

		Survey component legitimate skip/NA	Lowest quartile	Second quartile	Third quartile	Highest quartile	Total
	% within F1 quartile coding of SES2 variable	13.5%	20.2%	16.6%	15.3%	10.2%	15.4%
Working one FT job (>=35 hrs/wk)	Count	6	1586	1739	1929	2344	7604
	Expected Count	17.4	1812.2	1796.2	1873.7	2104.6	7604.0
	% within Employment status as of the F3 interview	0.1%	20.9%	22.9%	25.4%	30.8%	100.0%
	% within F1 quartile coding of SES2 variable	16.2%	41.1%	45.5%	48.3%	52.3%	46.9%
Working a FT job (>=35 hrs/wk) as well as 1 or more other job(s)	Count	0	259	306	330	404	1299
	Expected Count	3.0	309.6	306.8	320.1	359.5	1299.0
	% within Employment status as of the F3 interview	0.0%	19.9%	23.6%	25.4%	31.1%	100.0%
	% within F1 quartile coding of SES2 variable	0.0%	6.7%	8.0%	8.3%	9.0%	8.0%

Table 6

Relationship Between Socioeconomic Status and Full-Time Occupational Attainment of Young Adults

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	503.952 ^a	40	.000
Likelihood Ratio	467.813	40	.000
Linear-by-Linear Association	24.016	1	.000
N of Valid Cases	16197		

a. 1 cells (1.9%) have expected count less than 5. The minimum expected count is 4.31.

	Value	Approximate Significance
Nominal by Nominal Phi	.176	.000

	Cramer's V	.079	.000
	Contingency Coefficient	.174	.000
N of Valid Cases		16197	

Summary

This chapter presented the results based on the findings. Descriptive statistics were used to analyze the current employment status among postsecondary education levels and to analyze the current employment status with and without high school completion. Chi-square statistics were used to analyze the relationship between socio-economic status (SES) and full-time occupational attainment. Chapter 5 will discuss the summary, conclusions, and recommendations.

Chapter V: Summary, Implications, Conclusions, and Recommendations

This study examined the benefits of workforce education in accessing employment. This study examined the current employment status, then if being or not being a high school graduate was a factor and finally if individual socio-economic status impacted the ability to attain fulltime occupational employment. In Chapter 1, these three areas of interest were formulated into research questions for the study. Additionally, the purpose and limitations of the study were identified in this chapter. Chapter 2 provided a literature review relative to career pathways. The literature review covered research efforts centered on the foundations of workforce education in the United States, the ethics & mission of workforce education, federal workforce programs, and solutions to the problems in workforce education and addressed the dropout problem with young adults, and the socio-economic status of young adults. It examined the skills gap, reviewed possible workforce solutions, career focused & postsecondary education programs, self-directed learning, career pathways, and apprenticeships that prepare young adults for the labor market.

Chapter 3 highlighted the data used by the National Center for Education Statistics and the results of that study were used in this study. to conduct the study through secondary schools across the United States. Chapter 4 presented the findings of the study, including data collection and the statistical results. These results were presented in order of the research questions, including descriptive and chi-square with categorical data statistics. Finally, this chapter summarizes the findings and provides conclusions based on the analysis of the data, as well as the use of career pathways and suggestions for future research. Conclusions are presented in line with the research questions.

Purpose of the Study

The purpose of this study was to examine the anticipated impact of workforce education efforts and the use of career pathways for young adults during secondary and postsecondary years. This study examined the employment status of young adults based on postsecondary education activities. Secondly, it examined the current employment status of adults with and without a high school diploma. Finally, this study examined whether an individual's socio-economic status affected the attainment of full-time employment.

Research Questions

The following research questions were used in this study:

1. What is the current employment status of young adults based on postsecondary education levels?
2. What is the current employment status of young adults who have or have not graduated from high school?
3. What is the relationship between socioeconomic status (SES) and full-time occupational attainment of young adults?

Summary

This study examined the benefits of workforce education in accessing employment. These findings indicated that by receiving workforce education, employment was more attainable. Additionally, postsecondary students that drop out of high school are significantly more likely not to attain employment than those individuals that have completed secondary education. Another important factor was that there was a significant difference between individuals living in different socio-economic groups in regards to the ability to attain full-time employment. Through a review of the literature related to the research questions for this study,

an understanding of the foundations and mission for workforce education and the ethics involved would be essential in establishing policy and programs instrumental to addressing workforce education and training. The literature related to the workforce development mission has been evolving throughout the 20th and 21st century through federal policy and global politics. Those federal programs attempted to address the needs of individuals across the nation with regional concerns at the state level to compete globally from a skills perspective. The policy was developed through engagement among business leaders, partners, and elected representatives with the intent of being beneficial to individuals.

The literature indicated the need to provide knowledge about workforce education down to primary and secondary school levels as early as possible to get individuals oriented to the world of work. Lacking a secondary education has shown to be a major factor in an individual's ability to move from low socio-economic status to better living. Many strategies across the nation have been implemented to address the skills gap in the knowledge economy. These are being conducted through programs such as by federal and state governments programs, bridge programs, on-the-job-training, apprenticeships programs, and intensive postsecondary programs.

Conclusions

This study indicated that adults receiving postsecondary workforce education while employed is a successful training strategy. Postsecondary education comes in many forms; career and technical education, certificate programs, institutions of higher education, career exploration in the form of internships, and apprenticeships. Additionally, not completing secondary education can lead to not having a basic foundational understanding to work requirements needed to perform basic functions and tasks. Adults that drop out of high school

are significantly more likely to have limited employment opportunities than adults that have completed high school.

Not having equal access to public resources such as workforce education and training programs that can lead to employment opportunities has shown a significant difference between individuals that live in lower socio-economic groups than those living in higher socio-economic groups. The solutions range from exposing more students to workforce education, ensuring students remain in school and not dropping out through counseling and bridging the gap in current disconnects in workforce programs and the school system. Finally, an important solution is providing opportunities for individuals in lower socio-economic groups to gain access to available public resources to provide greater access to employment.

Implications

Limited workforce education translates to having a partially trained and educated labor force to fill critical occupations on a large scale regardless of industry. Federal and State governments need to conduct in-depth studies analyzing relative issues in workforce education policy development. Secondly, within the analysis, develop working groups composed of local civic leaders along with government officials to provide effective and meaningful policies to address polices workforce education, high school dropout rates and low socioeconomic status populations. Whether in the K-12 system in science, technology, engineering, and math, or agricultural fields, workforce education is vital. School systems in urban, suburban, and rural communities will need to be equipped with modern technology to ensure that all kids are equally prepared for the future. Additionally, secondary schools will need to incorporate a vocational track into the curriculum as a primary choice for students that do not intend to pursue higher education. The business community can be instrumental in assisting with the vocational track.

Businesses are engaged in current trends and requirements in specific industries. Finally, for those students that do intend to pursue higher education, college preparatory classes will also need to be implemented into the curriculum to minimize remedial classes during the first year of college. Workforce education is occurring, but not on a large enough scale across the United States of America to adequately address the current and future labor force shortages.

As the current working population retires, this problem will continue to grow without private and public solutions. Career awareness, preparation, and exploitation must start early to minimize industry shortfalls as the nation competes in a global economy. If strategies are not implemented to minimize the dropout rate among America's teens, this population will continue to grow as well as be a deficit to the workforce. Similarly, if more inclusive approaches are not extended to the lower socio-economic communities around the nation, this too will have a drain on the available working population. These communities will need government assistance to supplement the current resources provided to serve as a contributor to the labor market.

Recommendations

Based on the results of the study and the aforementioned implications, the following recommendations are being made. Additional studies in the access to workforce education and the use of career pathways are needed. These are two significant points of interest in addressing these workforce development strategies. First, a more comprehensive approach is needed to inform families, as well as public and private sector employers engaged in the process of workforce education. Families serve as the single most influential source in a young adult's decision making process on what they will do in the early stages of adulthood. Wyman (2015) suggests that through apprenticeships, the importance of workforce education should be instilled, starting in middle school. Whether a student plans to attend vocational or higher education,

parental guidance is paramount. Regardless of a family members education level, information on the opportunities through workforce education should be made available. Martin and Broadus (2013) suggests that studies such as math and science should be contextualized to make these subjects more appealing to students in the application in the world of work.

Adult educators could incorporate contextualized interactive methods in course instruction to better equip young adults to associate the classroom with real life situations. Howles (2019), indicated that he used the 7Cs framework when he provided guidance to professors that were designing course curricula. The 7Cs are the following: Conceptualize, Capture, Create, Communicate, Collaboration, Consider and Consolidate. As described by Buck, Christiansen, Hansen, Petersen and Sorensen (2018), the 7Cs design methodology is aimed at designing learning processes using modern learning technologies. According to Howles (2019), this technique provides interaction similar to a gaming scenario, with the student collaborating in the learning process in all levels of instruction.

Many families that lack resources and suffer from low literacy rates are in low socio-economic communities (SES). Focusing on lower socio-economic status (SES) communities will be instrumental in finding solutions for many problems related to workforce education. These communities show trends that they lack resources needed in school districts as well as to funded extra curricula training and education. Individuals from lower SES communities are more likely to drop out or not participate in workforce education when opportunities are not visible. Applying resources to these communities can lead to improvements in the knowledge of workforce education.

Governments can boost efforts on the awareness of workforce education through social media and public awareness campaigns. Federal and State workforce development agencies

control communications resources that impact young adults. Additionally, the policy is established by governmental agencies to prosper economic development at the state and ultimately national level. When private sector employers increase awareness about workforce education, the industry gains skilled employees to increase productivity. America is competing in a global economy, so workers have to be skilled to compete on a world class level.

Career pathways can serve as a workforce development strategy that has not been effectively applied in the secondary and postsecondary education system. The lack of resources could be a contributing factor to why broader communications and knowledge are not known about opportunities such as career pathways. There is an assumption that families will encourage children to complete secondary education then move on to postsecondary level educational opportunities earning better opportunities. Finally, another assumption is that there would be a system in place to better address the educational needs of people living in lower socioeconomic populations. As the nation has become more industrialized, the emphasis will be on getting all citizens highly prepared to work in needed industries. When the emphasis is established on these levels, solutions can be cultivated at the root cause eliminating a disconnected approach to workforce education.

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Appendix A
Institutional Review Board Approval

**AUBURN UNIVERSITY INSTITUTIONAL REVIEW BOARD for RESEARCH INVOLVING HUMAN SUBJECTS
REQUEST FOR EXEMPT CATEGORY RESEARCH**

For Information or help completing this form, contact: THE OFFICE OF RESEARCH COMPLIANCE, 115 Ramsay Hall
Phone: 334-844-5966 e-mail: IRBAdmin@auburn.edu Web Address: http://www.auburn.edu/research/vpr/ohs/index.htm

Revised 2/1/2014 Submit completed form to IRBsubmit@auburn.edu or 115 Ramsay Hall, Auburn University 36849.
Form must be populated using Adobe Acrobat / Pro 9 or greater standalone program (do not fill out in browser). Hand written forms will not be accepted.
Project activities may not begin until you have received approval from the Auburn University IRB.

1. PROJECT PERSONNEL & TRAINING

PRINCIPAL INVESTIGATOR (PI):

Name Fabian Cook Title student Dept./School Adult ED/Education
Address 84 Redwine Overlook Newnan GA 30263 AU Email ffc0001@auburn.edu
Phone 678-850-7548 Dept. Head Sheri Downer

FACULTY ADVISOR (if applicable):

Name James Witte Title Professor Dept./School EFLT COE
Address Haley Center, Auburn University
Phone 334-844-3054 AU Email witteje@auburn.edu

KEY PERSONNEL: List Key Personnel (other than PI and FA). Additional personnel may be listed in an attachment.

Name	Title	Institution	Responsibilities

KEY PERSONNEL TRAINING: Have all Key Personnel completed CITI Human Research Training (including elective modules related to this research) within the last 3 years? YES NO
TRAINING CERTIFICATES: Please attach CITI completion certificates for all Key Personnel.

2. PROJECT INFORMATION

Title: The Relvence of Career Pathways

Source of Funding: Investigator Internal External

List External Agency & Grant Number: _____

List any contractors, sub-contractors, or other entities associate with this project.

List any other IRBs associated with this project (including those involved with reviewing, deferring, or determinations).

FOR ORC OFFICE USE ONLY			
DATE RECEIVED IN ORC:	_____	by _____	APPROVA
DATE OF IRB REVIEW:	_____	by _____	APPROVA
DATE OF ORC REVIEW:	_____	by _____	INTERVAL
DATE OF APPROVAL:	_____	by _____	
COMMENTS:			

The Auburn University Institutional Review Board has approved this Document for use from 08/07/2018 to ---
Protocol # 18-319 EX 1808