

**THE EFFECTS OF STRUCTURED WORK EXPERIENCE ON THE WORK-  
READINESS SKILLS OF STUDENTS WITH DISABILITIES**

A Dissertation

by

JACQUELINE KAY PACHA

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Approved by:

Chair of Committee,	Dalun Zhang
Committee Members,	Michael R. Benz
	Victor Willson
	Jia Wang
Head of Department,	Victor Willson

May 2013

Major Subject: Educational Psychology

Copyright 2013 Jacqueline Kay Pacha

## **ABSTRACT**

It is common knowledge that employment is a large part of participation in society for all adults; and, one role of public education is to prepare students for these adult roles. Despite increasing school accountability measures for post-school outcomes of students with disabilities, a significant gap in employment between those with and those without disabilities remains. Work experience during high school has been established as the most consistent predictor of post-school employment. The problem is the lack of intervention research demonstrating ways of implementing programs that are associated with acquisition of work-readiness skills. The purpose of this study was to investigate the effects of structured work experience on the work-readiness skills of students with disabilities, and examine whether or not disability, or type of program, affected student outcomes while controlling for number of participant contact hours. To accomplish this purpose, a quasi- experimental one-group pretest-posttest design was selected and used.

The target population for this study was high school students with disabilities in three high schools in Texas. The final sample included 37 students. The Becker Work Adjustment Profile: 2 was the instrument used to measure the participants' work-readiness skills. The pretest was administered within two weeks of student entry into the program. The posttest was administered within two weeks of student exit from the program.

Descriptive and inferential analyses were conducted to answer the primary and exploratory research questions. Inferential analyses included a dependent sample t test and an ANCOVA using number of participant contact hours as the covariate. Results indicated participation in a structured work experience program had a positive effect on the work-readiness skills of these participants. ANCOVA results indicated (a) disability type was not a significant factor affecting the work-readiness of the participants, (b) program type produced a statistically significant main effect, (c) there was no statistically significant interaction effect between disability type and program type, and (d) number of contact hours produced a statistically significant main effect.

Future research studies should focus on replication of the current study results and examination of the long-term effects of participation in structured work experience programs on post-school outcomes.

## **DEDICATION**

To my husband, Bryan; the best thing about me is you.

“Then make me truly happy by agreeing wholeheartedly with each other, loving one another, and working together with one mind and purpose.” (Philippians 2:2, NLT)

## ACKNOWLEDGEMENTS

I would like to thank God for all of His promises and for my understanding that all things are directed by His will and at His time.

### Dissertation Committee

I would like to offer thanks to Dr. Dalun Zhang for the opportunity to be able to integrate full-time employment and doctoral level studies and for the many opportunities to help fellow classmates as they progressed through the dissertation process. These opportunities have blessed me beyond the bounds of this dissertation.

To Dr. Mike Benz, thank you for allowing me access to the wealth of knowledge and experience you possess. I am forever grateful for your mentorship and willingness to let me try my hand at grant writing and for the not so subtle ways that you tell me to “fish or cut bait”.

To my other committee members, Dr. Jia Wang, I appreciate the model of excellence you portray. Your willingness to meet with me, give me constructive feedback and share your time with me even though it is very scarce. To Dr. Victor Willson, thank you for teaching me that I do not have to be a statistician, but I do have to be a discerning consumer of statistics. You have always been willing to tutor me and have been incredibly patient. Thank you both for your contributions.

### Participants

Thank you very much to the schools, teachers and students that participated in the work experience programs. Cara, Ann, Mary Ann, Allison and Dawn, thank you so

much for all of your support in keeping these programs going and to the support you provided to me personally when my mother passed away. Your schools and students are lucky to have you!

#### Colleagues and Friends

There are so many people who have helped me along the way that I am sure that I will unintentionally forget someone. I have experienced my fair share of life events over the past five years including traumatic medical events, the death of my mother and the establishment of the Brazos Valley Center for Independent Living. I would like to thank Dr. Jeni Ganz, Dr. Shanna Hagan-Burke and Dr. Carolyn Clark for your compassion and “above and beyond” strategizing to help me make it through some of those rough spots. I would also like to thank some of my former classmates (most of whom now have “Dr.” in front of their names for their guidance and support; Cheryl Grenwelge, Jaime Duran, Russell Warren, Song Ju, Leena Landmark, and Eric Roberts. I would also like to thank Kathy May and Kristie Stramaski for their guidance and friendship. Outside of my TAMU-related colleagues and friends, I would like to thank my staff and board of directors at BVCIL for supporting me as I finished my writing.

#### Family

Lastly, I would like to thank my family. To my daughter Shannon, even though you may never read this, since the day you were born, my life was yours. You have served as a catalyst for much of my career decisions over the past 26 years. I love you. To my boys, Jason and Brady, I love you both so much. I am one of the most fortunate people in the world. You both have grown into such fine young men. I am very proud of

both of you. I hope you know that I would not have been able to finish this project without either of you.

I am blessed to have two best friends that I consider to be family, Joan and Cheryl. Without our “coffee with the Goddesses” time, I am certain the world would have ended by now. I love you both.

To my parents, Betty (1933-2010) and Odie (1931-1997), I offer immeasurable thanks and gratitude. You instilled a confidence in me that can only be achieved by letting a child go outside at the age of nine, wearing very ugly green shorts and a purple halter top, playing a clarinet and jumping into the middle of a marching band as it parades by the house. As a nine-year old child, I thought this was “normal”. I remember looking back at you as I marched down the street and you were both smiling and clapping for me just as you did when I got married, when my children were born and as I made it through various college graduations. I’m sorry you are not here for this one, but it is because of your love and the “Otis Principles” that I am here.

Lastly, to my husband Bryan, you complete me. You have taken a back seat to this whole education thing and it is coming to a close! Thank you so much for the first twenty-five years. I love you.

## TABLE OF CONTENTS

ABSTRACT .....	ii
DEDICATION .....	iv
ACKNOWLEDGEMENTS .....	v
TABLE OF CONTENTS .....	viii
LIST OF FIGURES.....	x
LIST OF TABLES .....	xi
CHAPTER I INTRODUCTION .....	1
Background .....	2
Structured Work Experience .....	4
Teaching Work-readiness to Students with Disabilities.....	10
Purpose of the Study.....	12
Research Questions .....	13
Statement of Hypotheses .....	14
Theoretical Framework .....	14
Definition of Key Terms .....	16
Significance of this Study.....	18
Delimitations .....	18
Limitations.....	18
Assumptions .....	19
Organization of the Study.....	19
CHAPTER II REVIEW OF THE LITERATURE.....	21
Introduction .....	21
Background Literature.....	22
School-to-Work Transition Literature.....	29
Summary .....	44
CHAPTER III RESEARCH DESIGN AND METHODOLOGY .....	46
Context .....	46
Subjects .....	47
Instrumentation.....	50
Procedures .....	60
Summary .....	73



CHAPTER IV RESULTS .....	74
Sample .....	74
Descriptive Statistics of Student Performance .....	77
Outcome of the Treatment.....	79
Effect of Disability Type and Program Type .....	82
Summary .....	85
CHAPTER V CONCLUSIONS .....	86
Introduction .....	86
Summary of the Major Findings of the Present Study .....	86
Interpretation of the Findings .....	88
Discussion of the Findings .....	89
Summary .....	101
REFERENCES .....	103
APPENDIX A DEMONSTRATION SITE APPLICATION .....	117
APPENDIX B DEMONSTRATION SITE INTERVIEW AND OVERVIEW .....	121
APPENDIX C EXAMPLE MEMORANDUM OF UNDERSTANDING .....	125
APPENDIX D EXAMPLE WORKPLANS .....	127
APPENDIX E EXAMPLE BUSINESS PLAN .....	134

## LIST OF FIGURES

FIGURE		Page
3.1	Notational Representation of the Design.....	68
4.1	Work-Readiness Pretest-Posttest Gains.....	79

## LIST OF TABLES

TABLE	Page
2.1 Designs, Interventions, and Outcomes for Identified Studies.....	32
2.2 Quality Structured Work Experience Components in Intervention Research	38
2.3 Structured Work Experience Interventions Aligned to SCANS Framework	42
3.1 Summary of Sample Demographics.....	49
3.2 Disability Distributions by Gender.....	50
3.3 Disability Distributions by Age in Years.....	50
3.4 <i>BWAP:2</i> Score Descriptions.....	52
3.5 <i>BWAP:2</i> Reliability Measures: Mental Retardation.....	56
3.6 <i>BWAP:2</i> Reliability Measures: Learning Disabled.....	56
3.7 <i>BWAP:2</i> Reliability Measures: Emotionally Disturbed .....	56
3.8 <i>BWAP:2</i> Interrater Agreement of Domains.....	57
3.9 Comparison of SCANS Workplace Competencies to BVEP Components of School-based Enterprise and Service Learning.....	66
3.10 Comparison of SCANS Foundational Skills to BVEP Components of School-based Enterprise and Service Learning.....	67
4.1 Participant Demographic Data.....	76
4.2 Description of Work-Readiness Pretest and Posttest for Sample.....	77
4.3 Description of Work-Readiness Pretest and Posttest by Gender.....	78
4.4 Description of Work-Readiness Pretest and Posttest by Disability.....	78
4.5 Test of the Assumption of Homogeneity of Regression Slopes.....	82
4.6 Analysis of Covariance for Broad Work Adjustment by Disability and Program Type.....	85

## CHAPTER I

### INTRODUCTION

In recent years the phrase, “closing the achievement gap” has become commonplace terminology in the field of public education. A quick search of the internet for the exact term, “closing the achievement gap”, generated 11,200,000 results. The “achievement gap” typically refers to the gap between the scores of the majority and marginalized groups specifically related to reading and math scores on standardized tests. A quote from Texas Commissioner of Education, Robert Scott, illustrates the goal: “We are closing the achievement gap statewide. I am pleased with this positive trend. However, we will not be satisfied until the gap is eliminated” (Texas Education Agency [TEA], 2011). What is education designed to achieve? What is an acceptable gap? According to the U.S. Department of Education (2011), the purpose of public education in the United States is to prepare youth for adult roles in society. One primary component of adult life is employment. What if the achievement gap was measured by participation in the workforce?

Over the past thirty-six years, the United States has moved from only educating about 20% of students with disabilities (USDOE, ca. 2000) to providing an education, planning for transition to adulthood, and holding the education system accountable for the post-school outcomes of 100% of students with disabilities. However, in September, 2011, the Bureau of Labor Statistics (BLS) reported a 48.6 percentage point gap between those with and without disabilities participating in the labor force. This gap is compared to a

48 percentage point gap in 2008, when disability employment statistics began to be tracked (BLS, 2011). Not only has this achievement gap not closed; it has widened.

### **Background**

Public education in the United States can be traced back to the early 1600's. Although there is little resemblance between the demographic compositions of the classrooms from the 1600's compared to the classrooms of the 2000's, the core purpose of education has remained the same—preparation for adult roles in society. The earliest schools educated affluent white males that chose to attend. As basic literacy within the United States began to decline, states began to adopt compulsory attendance laws requiring students to attend school. However, the “student body” was still predominantly white males. It was not until the 1950's that public education was available and mandatory for most students regardless of gender, ethnicity, or economic status.

Prior to 1975, the United States was only educating about one in every five students with disabilities (USDOE, ca. 2000). In 1975 the Congress enacted Public Law (PL) 94-142, also called the Education for All Handicapped Children Act (EAHCA). This law established that all children with disabilities were entitled to a *free appropriate public education* in the *least restrictive environment*. The impetus of educational practice in the 1970's was to operationally define and implement this new law.

As the first cohort of students with disabilities to be educated under PL 94-142 began to enter high school, the educational momentum shifted, and the need to plan for, and provide school to adult life transition services became the focus. This shift in focus was the driving force behind the development of the first transition model. In 1984,

Madeleine Will the director of the U.S. Department of Education Office of Special Education and Rehabilitative Services (OSERS), defined *transition* as an outcome oriented process that included a wide and varied number of services and experiences with the purpose of being a *bridge* from high school to the adult outcome of employment (Will, 1984). This focus on the need for transition services was incorporated when EAHCA (PL 94-142) was re-authorized in 1990 and re-titled as the Individuals with Disabilities Education Act (IDEA). This law included a comprehensive definition of transition services as well as several new mandates for schools related to preparing students with disabilities for adult living.

In 2004, IDEA was re-authorized and slightly re-titled as the Individuals with Disabilities Educational Improvement Act (IDEIA, 2004). As with each prior re-authorization, the legislative mandates went a step further, this time holding schools accountable for the post-school outcomes of students with disabilities. The performance measure for post-school outcomes is, “the percent of youth who had IEPs, are no longer in secondary school and who have been competitively employed, enrolled in some type of postsecondary school, or both, within one year of leaving high school” (HR 2884). This accountability exceeds the accountability that public schools have for educating students without disabilities, where the responsibility for outcome ends with the awarding of the diploma.

Just as there are different ways of defining an achievement gap, there are also different ways of measuring progress. Over the past decade, the emphasis has been on standardized achievement testing related to core academics, with progress measured

annually. These annual results are used by policy-makers and practitioners to make adjustments in curriculum and instruction to compensate for revealed weaknesses. In contrast, the achievement measure for the post-school outcome of employment is not evaluated until one year after the student has exited from the public school system; thereby creating a disconnect between the instructional delivery of the curriculum and outcome measure.

Even though the desired outcome (i.e., post-school employment) cannot be directly measured until after a student exits high school, progress toward that outcome can be measured. Research has shown that the most consistent predictor of employment is work experience during high school (Bates, Cuvo, Miner, & Korabek, 2001; Benz, Lindstrom & Yovanoff, 2000; Benz, Yovanoff, & Doren, 1997; Carter et al., 2010; Kohler & Field, 2003). Additionally, research has shown that employers want employees who possess general employability skills (i.e., work-readiness skills) (Ju, Zhang & Pacha, 2012; Parker, 2008). The following sections present information relative to how structured work experience programs impact the work-readiness skills of students with disabilities.

## **Structured Work Experience**

### **Conceptualization of Structured Work Experience**

The term “structured work experience” has a lengthy and strong presence in the Australian education and workforce development systems. However, its handling in practice and research literature within the United States is much more inconsistent and sporadic. The use of the term has evolved from vocational and distributive education

(Gutcher, 1976), with increasing prevalence in recent years within special education literature (Benz, Doren & Yovanoff, 1998; Kohler, 1996; Kohler & Chapman, 1999; Lindstrom, Doren & Miesch, 2011).

Kohler and Chapman (1999) conducted a comprehensive review of the school-to-work transition literature with the purpose of synthesizing research that attempted to empirically validate school-to-work transition practices. They examined the literature according to a heuristic framework established by the National Transition Alliance, and included practices related to (a) student-focused planning; (b) career pathways and contextual learning; (c) family involvement; (d) business, labor, and community resources; and (e) structures and policies. The activities identified in the career pathways and contextual learning category included general employability skills instruction, job-specific vocational instruction, and spanned both school- and work-based settings. While this review provided support for practices related to work experience programs, the researchers also note that, “no body of evidence exists that unequivocally confirms any particular approach to transition, nor is there any strong evidence to support individual practices” (p. 30). Initially, Kohler and Chapman identified over 100 potential studies for inclusion in their review; however, only 20 met the criteria for inclusion in the review, and of those, only five were relative to career pathways and contextual learning, further affirming the limited explicit meaning of the term *structured work experience*.

### **Definition of Structured Work Experience Programs**

Although a singularly accepted definition of structured work experience programs does not appear to exist, Gutcher (1976) offers a comprehensive definition that



captures the intent. This tripartite definition encompasses (a) the concept of cooperative education (i.e., administered by a public school system; consisting of both academic and vocational instruction; both school and employer are involved in planning and supervising the work experience), (b) distinction between *structured* (i.e., programs based on identified competencies with specific learning objectives) and *unstructured* (i.e., vague imprecise generalizations of learner expectations and school/employer responsibilities), and (c) clarification of what constitutes *work experience* (i.e., synonymous with the term *action learning*; refers to experiential learning including work study, cooperative education, work-service, and on-the-job training).

Researchers within the field of career development and transition acknowledge that common elements of structured work experience programs feature some level of paid or unpaid authentic work; include academic and vocational instruction; are under the control of the public school system; and involve formalized agreements between parties, including specification with the student's IEP (Benz, Doren & Yovanoff, 1998; Kohler, 1996; Kohler & Chapman, 1999; Lindstrom, Doren & Miesch, 2011; Luecking, 2000; Phelps & Hanley-Maxwell, 1997).

### **Work Experience and Successful Transition into Adult Roles in Society**

Many common areas of adult living require an economic foundation of support, including community living options; social, recreation and leisure activities; transportation; continuing education or training, and others. Several commissions that convened in the early- to mid- 1970's examined difficulties experienced by all youth in making school to adulthood transitions (National Commission on the Reform of

Secondary Education, 1973; National Panel on High School and Adolescent Education, 1975; President's Science Advisory Committee, 1974). According to Ruhm (1997), the committees reached the consensus that "additional early work experience would foster the development of personal responsibility, smooth the transition from youth to adulthood, and improve educational performance and occupational attainment" (p. 735).

In addition to the apparent economic benefits of working, studies also examined linkages between job characteristics of high school students and student attitudes. Stern, Stone, Hopkins, and McMillion (1990) found that opportunities for on-the-job learning and degree of physical challenge of the job were predictors of student motivation to do good work. Additionally, students whose jobs engaged their existing skills and abilities were less cynical about work and expressed a stronger motivation toward work.

Individuals with disabilities who work can experience a sense of accomplishment, increased self-esteem, and a broadening of their social networks, leading to an overall increase in personal independence.

#### **Post-school Outcomes and Work-readiness Skills of People with Disabilities.**

Even though the benefits of employment reach far beyond economic impact, the realization is that many people with disabilities are not obtaining or maintaining employment. The importance of work as the foundation for quality of life, economic self-sufficiency, and personal identity has been well established in the literature (Benz & Kochhar, 1996; Brooke, Revell, & Wehman, 2009; Halpern, 1992). While programs focusing on the preparation of youth with disabilities for employment have been in existence since long before the transition mandates of IDEA 1990, little is known about

how these programs affect the work-readiness skills of the students who participate in them. What we do know is work experience during high school has been the most consistent predictor of employment after high school for youth with disabilities (Bates, Cuvo, Miner, & Korabek, 2001; Benz, Lindstrom & Yovanoff, 2000; Benz, Yovanoff, & Doren, 1997; Carter et al., 2010; Kohler & Field, 2003).

### **Post-School Outcome Status of People with Disabilities**

Historically, individuals with disabilities, when compared to those without disabilities, have experienced disturbing employment outcomes, including higher rates of unemployment, or, for those who are working, limited work hours, few wage increases, and an increased likelihood of being the first workers in an organization that face termination when economic pitfalls occur (Hughes & Avoke, 2010; Newman, Wagner, Cameto, & Knokey, 2009), along with higher rates of poverty and homelessness, and over-representation in the prison system (Ruhm, 1997). Based on the premise that post-school outcomes are reflective of public education efforts, and the fact that public education for students with disabilities has evolved from being non-existent to exceeding the accountability expectations for those without disabilities since 1975, the U.S. Department of Education, Office of Special Education Programs commissioned a longitudinal study to examine the impact of educational efforts with regard to students with disabilities.

From 1987-1990 data was collected for the National Longitudinal Transition Study (NLTS). This study involved more than 8,000 youth aged 13 and over who were receiving special education services, nationwide, and included variables that facilitated

descriptive and exploratory analysis on several outcomes, including employment (SRI, 2007). A companion study, National Longitudinal Transition Study-2 (NLTS2), was commissioned to begin in 2001 and continue through 2011. This study used many of the same variables as the NLTS, along with a realignment of items for congruency with revised disability categorical eligibility considerations set forth in the Individuals with Disabilities Education Improvement Act (IDEIA, 2004). The NLTS2 included a nationwide sample of 11,270 youth who were between the ages of 13-16 at the start of the study in 2000 (NLTS2, 2011). These two studies provide an unprecedented opportunity to examine the ways in which special education has changed, and to examine the post-school outcome status of people with disabilities.

The first comparative results regarding employment between the NLTS and NLTS2 were reported in an executive summary report to the Office of Special Education Programs, U.S. Department of Education (Wagner, Cameto & Newman, 2003). Student outcomes were reported relative to employment rates including 1) Whether or not the youth had paid employment during the previous year; and 2) Whether or not the student was currently employed. This is an important distinction in that the percentage that reported prior year employment showed an increase from NLTS to NLTS2, bringing the overall employment rate for youth with disabilities to 60%, which is comparable to the percentage of youth without disabilities at 63%; however, there was a decline in the percentage of youth that reported current employment. The authors of the report suggest this may indicate that youth had “more sporadic work experiences, rather than continuous employment” (p.5).

## **Work-Readiness Skills of People with Disabilities**

It is understood that most people who have jobs have employers; and employers have expectations of their employees. In order for employees to obtain and maintain employment, it is necessary that they develop and demonstrate work-readiness or employability skills (Parker, 2008). According to O'Reilly and Chatman (1994), employability skills are transferrable and have applicability across employers and industries. Research has shown that public school systems are focusing their career-related instructional efforts on teaching specific technical skills and career awareness rather than general employability skills (Guy, Sitlington, Larsen, & Frank, 2009) in situations where the majority of high school students are leaving school without a solid base of employability skills (Overtoom, 2000). Recent research querying employers regarding the order of importance they subscribe to work-related skills of individuals with and without disabilities, comparatively, the top five skills were: (1) demonstrating personal integrity/honesty in work, (2) ability to follow instructions, (3) ability to show respect for others, (4) ability to be on time, and (5) ability to show a high regard for safety procedures (Ju, Zhang & Pacha, 2012). Overall, the findings of the studies suggest that for individuals, with or without disabilities, to obtain and maintain employment, they must possess a strong foundation of transferrable and general employability or work-readiness skills.

### **Teaching Work-readiness to Students with Disabilities**

Given the prominence of the role of employment in adult roles in society, it is imperative that students with disabilities are equipped with the work-readiness skills

required by employers in order to engage, and remain engaged, in the workforce after graduation from high school. With the knowledge that work experience during high school is the most consistent predictor of employment after high school; coupled with the accountability of public schools to ensure that students that received special education services are engaged in either work or training after high school, schools must take measures to make sure their graduates are trained and employable.

### **Teaching Work-Readiness through Structured Work Experience Programs**

Even though work experience programs have been recognized as important in helping individuals achieve employment after high school, several studies have noted barriers to effective implementation of these comprehensive programs. Brown (2009) recognized the growth in strategies to increase post-school employment outcomes, but states that, “these strategies are not being employed in an inclusive, coordinated, community-centered manner” (p. 95). Phelps and Hanley-Maxwell (1997), in a review of school-to-work practices and outcomes for youth with disabilities, note that an array of program initiatives created a “fragmented and disjointed” ( p. 220) system for those most in need of continuity. And, Stern, Rahn, and Chung (1998) discuss the entanglement of government regulations and compliance issues as factors that inhibit the development of structured work experience programs from the perspective of employers.

As a result of educational and vocational reform initiatives, several approaches have been identified as methods for delivering work experience opportunities for youth with disabilities, such as apprenticeships, internships, school-based enterprises, service learning, work sampling, community-based vocational instruction, work-based learning,

and paid employment (Gaylord, Johnson, Lehr, Bremer & Hasazi, 2004; Luecking & Fabian, 2000; Wehman, 2006; & Zhang, Katsiyannis, & Zhang, 2002 ). Even though there are differences between the types of programs used to deliver work experience opportunities, all of them can deliver *quality* work-based learning as defined in research as being structured, connected to school-based learning, individualized based on student's strengths and preferences, uses community linkages, and occurs in real work settings (Brooke et al., 2009; Hoyt, 1994; Kohler, 1996; Luecking, 2009; Phelps & Hanley-Maxwell, 1997). The premise is that students who participate in quality structured work experience programs will acquire and refine interpersonal skills, work habits and attitudes, problem-solving and decision-making skills, and be able to internalize these general work-readiness skills, thereby increasing their potential to obtain and maintain employment after high school.

### **Purpose of the Study**

Research over the past two decades has consistently shown a connection between employment during school and employment after exiting from high school (Benz, Yovanoff, & Doren, 1997; Colley & Jamison, 1998; Hazazi, Gordon, & Roe, 1985; Lindstrom, Doren, & Miesch, 2011; Luecking & Fabian, 2000; NLTS2, 2006; Wagner, 1991). Additionally, federal policies and initiatives relative to the connectedness of education and employment have been present since at least 1918 with the passage of the Smith-Hughes Act. However, in a review of school-to-work transition literature, Kohler and Chapman (1999) noted a lack of intervention research that demonstrates ways of implementing experiential programs that are associated with long-term outcomes.

Furthermore, while data exists relative to the achievement of employment as a post-school outcome (i.e., NLTS-2), research that examines work-readiness skills that are requisite to obtaining and maintaining employment is elusive.

The purpose of this study was to investigate the effects of structured work experience on the work-readiness skills of students with disabilities. Specifically, the study examined whether participation in a structured work experience program improved student work-readiness skills. The study also explored the influence of the number of participant contact hours relative to student outcomes and whether or not disability, or type of program, affected student outcomes.

### **Research Questions**

This study was designed to measure one primary and three exploratory research questions. The specific research questions were:

Primary 1: What is the effect of participation in structured work experience on the work-readiness skills of students with disabilities?

Exploratory 1: Does type of disability affect student work-readiness skills as measured by posttest gain scores when controlling for number of participant contact hours?

Exploratory 2: Does the type of program affect student work-readiness skills as measured posttest gain scores when controlling for number of participant contact hours?



Exploratory 3: Does an interaction effect between disability type and program type affect student work-readiness skills as measured by posttest gain scores when controlling for number of participant contact hours?

### **Statement of Hypotheses**

H1: There is a statistically significant difference pretest to posttest on work-readiness skills by participation in structured work experience.

H2: Type of disability affects work-readiness skills.

H3: Program type affects work-readiness skills.

H4: Interaction between disability type and program type affects work-readiness skills.

### **Theoretical Framework**

The conceptualization of work-readiness skills used in this study is based on the Secretary's Commission on Achieving Necessary Skills (SCANS) framework of essential workplace skills (1991 & 2000). The SCANS framework categorizes eight essential skills into two broad categories: workplace competencies and foundational skills. The SCANS conceptualization is used in this study because of its wide acceptance in the fields of both education and employment along with its focus on an agenda for teaching and training American workers (ACT, 2000).

#### **SCANS Definition of Essential Workplace Skills**

The U.S. Department of Labor, through the Secretary's Commission on Achieving Necessary Skills (SCANS), identified five competencies and a three-part foundation of skills and personal qualities that are needed for success in the global

market (United States Department of Labor [USDOL], 1993). The clustering of these skills within the categories of “competency” or “foundational” is distinctive. The skills identified as “workplace competencies” refer to resources and skills that “effective workers can productively use” (SCANS, 1993 p.6); while the skills identified as “foundational” pertain to basic skills that are necessary for “competence” (i.e., requisite skills needed for a worker to be able to “productively use” identified resources and skills).

### **Component Elements of Workplace Skills**

**Competencies.** According to the SCANS, the five competencies demonstrate what effective workers can productively use, including: *resources* (i.e., time, money, materials, space and staff); *interpersonal skills* (i.e., working on teams, teaching others, serving customers, negotiating and respecting cultural diversity); *information* (i.e., obtain and evaluate data, organize and maintain files, communicating and using computers to process information); *systems* (i.e., understanding social and organizational systems, monitoring and correcting performance, and designing or improving systems); and *technology* (i.e., selecting equipment and tools, applying technology to tasks, and maintaining and troubleshooting technologies).

**Foundational skills.** The three foundational elements include: *basic academic skills* (i.e., reading, writing, arithmetic, speaking and listening); *thinking skills* (i.e., creative thinking, decision making, problem solving, knowing how to learn and reasoning); and *personal qualities* (i.e., individual responsibility, self-esteem, sociability, self-management and integrity).

## **Definition of Key Terms**

**Brazos Valley Employment Project (BVEP):** A three year demonstration project administered through the Center on Disability and Development at Texas A&M University and funded through a grant from the Texas Council for Developmental Disabilities (2007-2010).

**Broad Work Adjustment (BWA):** This is a composite measure of the BWAP:2 domains of HA, IR, CO, and WP. It is a summary score of the worker's performance across a variety of work and social activities.

**Cognitive Skills (CO):** One of four domains measured by the BWAP:2. This domain assesses skills related to the abilities of reasoning, judging, perceiving, thinking and recognizing. It includes things such as: using numbers, communicating, reading, concepts of time, writing, following instructions, and learning job tasks.

**Interpersonal Relations (IR):** One of four domains measured by the BWAP:2. This domain assesses skills related to social interaction, emotional stability, and cooperation. It includes things such as group acceptance, concern for others, personal relations, changes in routine, reaction to frustration/disappointment, attitude toward authority and ability to accept correction.

**School-based enterprise (SBE):** A SBE is defined as a sustained, school-sponsored, student led activity that engages students in the production of goods and/or services for the school or community (Gugerty, Foley, Frank and Olson, 2008).

**Service-learning:** Service-learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the

learning experience, teach civic responsibility, and strengthen communities.

Structured work experience program: A global term used to describe a program under the responsibility of a public high school that provides students with disabilities opportunities to gain work experience. This does not refer to a specific method of delivery or location for the program; however, it is inclusive, coordinated, structured, connected to school-based learning, individualized based on student's strengths and preferences, and uses community linkages.

Work Habits and Attitudes (HA): One of four domains measured by the BWAP:2. This domain assesses attendance and punctuality, personal hygiene, motivation, and work posture. It includes things such as bathing, wearing appropriate clothing, punctuality, and attendance.

Work Performance Skills (WP): One of four domains measured by the BWAP:2. This domain assesses skills related to gross and fine motor skills, communication, job responsibility, and work efficiency. It includes skills such as recognizing errors, correcting errors, quantity of work, quality of work, asking for help, attending to tasks, and practicing safety.

Work-readiness skills: A cluster of traits that employers have identified as being desirable in employees. These traits are not associated with any particular vocational skill and are typically referred to as *soft skills*. For the purposes of this study, the Becker Work Adjustment Profile: 2 (BWAP:2) is the instrument used to measure these skills. The work-readiness skills measured by the BWAP:2 include: Work Habits and Attitudes (HA), Interpersonal Relations (IR), Cognitive Skills (CO),

Work Performance Skills (WP), and a composite of HA, IR, CO and WP referred to as Broad Work Adjustment (BWA). Each of these is also defined in this section.

### **Significance of this Study**

This study contributes to the professional knowledge base by informing and improving educational practice, which is essential if the employment achievement gap is to be reduced. Within the field of education, it is necessary for administrators to rely on research-based or evidence-based practices when making decisions about programs, curriculum, and instruction. This study is significant in that any meaningful results will be of benefit to practitioners. In addition to the results of the study, one of the identified problems related to implementing structured work experience programs in high schools is the array of program initiatives that are fragmented and disjointed (Phelps & Hanley-Maxwell, 1997). This study is also practically significant in that it provides practitioners with a guiding structure to facilitate program planning, development, implementation, and evaluation.

### **Delimitations**

This study was limited to high school students with structured work experience included in their Individual Education Program (IEP) while enrolled in one of three high school structured work experience programs in Texas that participated in the Brazos Valley Employment Project (BVEP).

### **Limitations**

There are several limitations to this study for consideration:

1. The participants were from high schools in three Texas school districts all located within the same region of the state; therefore, results may not be generalizable to other localities.
2. The pre- post- test used an observer rating scale. While the same observer completed the pre/post rating scales, an interrater was not used.
3. A number of variables are not within the control of the researcher and can impact the results. These variables may include: observer biases, level of engagement of district teachers and staff, and quality of instruction.
4. There are statistical and design limitations inherent using convenience sampling with intact groups from an accessible population (Willson, 2008).

### **Assumptions**

This study includes the following assumptions: (a) the observers consist of school personnel with a close working relationship with the student; (b) the observer rating protocols are completed within two weeks of student entry and exit from the program; (c) the data reported by the observers is objective and with limited bias; (d) the instrument used measures what it intends to measure; and (e) the interpretation of the data is an accurate reflection of the observer ratings.

### **Organization of the Study**

Chapter I provides an introduction to the study and situates the topic relative to current data demonstrating the disparity that exists between the post-school employment outcomes of people with and without disabilities. In addition, this chapter presents the

research questions and hypotheses, along with the professional significance of the study and an overview of the methodology.

Chapter II consists of a systematic literature review that presents the knowledge base upon which this study is based, and a linkage between the prior research and the topic of the study.

Chapter III provides an overview of the methodology used in this study. It includes a description of the participants, instrumentation, and procedures related to data collection and analyses.

Chapter IV presents the results of the analyses organized according to the posed research questions. A general summary of the cumulative results is also included.

Chapter V is the conclusion of the study. This includes a discussion of the findings, limitations of the study, and implications for both research and practice, along with recommendations for future research.

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

#### **Introduction**

To understand the effects of structured work experience programs on the development of work-readiness skills it is essential to look at the theoretical underpinnings related to learning and career development. Within the field of educational psychology there are numerous theories related to how knowledge is acquired (i.e., the interplay between cognition, emotion and environment). Although there are 54 distinct learning theories referenced in the *Theory into Practice* database, (Kearsley, 2011), the foundations informing this study are constructivism and social learning theories.

According to Ryder (2006), constructivism is defined as a philosophical position that views knowledge as the outcome of experiences that are mediated by one's own prior knowledge and the experience of others. Constructivism has its roots in Piaget's theory of human development which asserts that cognitive development is a continual process of assimilation, accommodation, and correction (Piaget, 1968). The basic tenets of constructivism (Hoover, 1996) that are applicable within the context of this study are: 1) The acquisition of new knowledge occurs when prior knowledge (i.e., past experiences) combines with a current experience and 2) learning is an active process.

While historical literature relating to career development dates back to the Industrial Revolution in 1800's, career development theories did not begin to emerge until the 1950's with Ginzberg, Ginsburg, Axelrad, and Herma being recognized as the



first to suggest that occupational choice is a developmental process. The concept of career development is very broad as it encompasses occupational choice, vocational behavior, specific vocational preparations and work adjustment. The major theories associated with career development include: trait-and-factor, developmental, social learning, self-efficacy, psychoanalytical, situational, and learning; although, critics argue that existing career development theories have limited applicability to individuals with disabilities; as most of the theories were derived from observations from a population of mostly white, middle-class males (Rojewski, 2002). People with disabilities do acquire knowledge and skills and do desire employment. It is at the intersection of constructivism (Bruner, 1960) and social learning theory (Krumboltz & Worthington, 1999) where structured work experience programs and the development of work-readiness skills of students with disabilities conjoin.

### **Background Literature**

Much of the research relative to employment and students with disabilities over the past twenty years has emanated from the National Longitudinal Transition Study (1987-1990) expanded by the National Longitudinal Transition Study-2 (2001-2011). The latter involved a nationwide sample of over 11,000 youth receiving special education services and focused on in-school topics, such as high school courses, activities, and grades as well as post-school topics, such as postsecondary education and training, employment, independent living and community participation. Many studies have used NLTS data. The studies presented below support the premise that students with significant disabilities have on-going employment-related support needs after high

school and the employment gap for individuals with disabilities after high school remains a prevalent problem. Additionally, the studies re-affirm the importance of work experience opportunities during high school and the need to identify interventions that develop the attributes employers deem as essential.

In 2003, Wagner, Cameto, & Newman reported the first comparative employment results between the NLTS and NLTS2 which included whether or not the youth had paid employment during the previous year, and whether or not the student was currently employed. Overall, the percentage that reported they had been employed during the previous year showed an increase from NLTS to NLTS2; however, there was a decline in the percentage of youth that reported current employment. Wagner, et al. (2003) suggest this may indicate that youth had “more sporadic work experiences, rather than continuous employment” (p.5).

Katsiyannis, Zhang, Woodruff & Nixon (2005) examined transition support data from the NLTS-2 for students with mental retardation. Specifically, they were looking at the age when transition planning began, student involvement in the transition planning process, post-high school goals, transition related instruction, and community agency linkages. In looking at the post-school service or program needs that were identified, 65.9% of students with mental retardation were expected to need services beyond high school relative to vocational training, placement or support as compared to 32.4% for students with learning disabilities and 38.7% for students with emotional disturbances. While the authors caution usage of their findings because of limited information about individual student characteristics and the fact that the analyses are based on secondary

data, they do conclude that additional research is needed in the “identification and implementation of public school practices that are likely to result in improved post-school outcomes.” (p. 115).

In another examination of the NTLIS-2 data for students with intellectual disabilities, Grigal, Hart & Migliore (2011) examined students’ post-secondary goals, wages, and employment outcomes, among other variables. While many of the findings show an overall positive trend, 54% of the students with intellectual disabilities were not working at the time of last follow-up and 29% had not worked at all since leaving high school. While cautioning generalization of their findings due to analysis of secondary data, the authors suggest employment goals are reflective of low expectations for students with intellectual disabilities to obtain competitive employment; and, these expectations may influence those involved in creating and implementing appropriate transition services.

The magnitude of the data collected through the NLTS and NLTS-2 provides unprecedented opportunities to explore changes over time with regard to transition-aged students with disabilities. However, limitations of such a large scale study exist. While vastness of the data is strength, it can also be considered a weakness. Much of the research that has been conducted over the past fifteen years has involved secondary analyses to generate inferences and implications instead of generating empirical research. Additionally, large scale quantitative data presents a limited ability to construct meaning at the participant level. While the large scale longitudinal data is useful in identifying trends over time, its lack of immediacy makes it less applicable to classroom

teachers as they strive to make adjustments in their curriculum and instruction. Merriam (2009) suggests a qualitative method of inquiry to help practitioners know about and improve the quality of their practice.

A primary purpose in qualitative research is to construct meaning. Lindstrom, Doren & Miesch (2011) examined the career development process using an in-depth multiple case study. The sample consisted of eight individuals that had received special education services during high school; participated in a structured work experience program for at least one year during high school; earned at no less than \$20,000 per year; and, had been out of high school for seven to ten years. These cases were particular examples of individuals with disabilities who were living above the Federal Poverty Level without receiving any public assistance. Though the trajectory of career development varied between the participants, the importance of ongoing education/training, steady work experiences and personal attributes were common themes. While the participants were selected based on an earnings level many years after high school exit, it is important to note that all of the students were engaged in either training or employment upon high school exit and reported an average of four to six work experiences during high school. Of those that were employed upon exit from high school, their employment was entry level and paid minimum wage. Given the limitations inherent to generalization of case study research, Lindstrom, Doren & Miesch conclude that participation in structured work experience programs facilitated acquisition of work skills and behaviors such as teamwork, responsibility and work ethic which was essential to career advancement in the succeeding years.

This study builds on the quantitative and qualitative approaches to research inquiry examined in the above studies. The quantitative research provides information about trends, improvements and disparities which serve as a navigation system to broadly measure progress toward closing the gap in employment between those with and those without disabilities. The qualitative research focuses on meaning in context which provides practitioners with practical examples to facilitate their construction of meaning. This dissertation bridges both approaches. The data used for this study were captured in the structured work experience program by the classroom teacher, which provides both quantitative measurability and qualitative context.

### **Quality Work Experience**

Apprenticeships, paid and unpaid internships, school-based enterprises, service learning, community-based vocational instruction, work-based learning and paid employment are common approaches to delivering work experience opportunities. Irrespective of the specific approach to delivering the work experience opportunity, it is essential that the program provides a quality learning experience for the participant.

Benz, Yovanoff and Doren (1997) conducted a study in which they examined whether or not school-based and work-based components commonly associated with school-to-work programs (e.g., career exploration and counseling; high academic achievement; structured work experience; and connecting activities) actually predicted better employment and engagement outcomes for students with and without disabilities. The findings from this study indicate that special educators should strive to be sure local programs include: options for multiple pathways and timeframes; reasonable

accommodations and support services; relevant performance indicators; adequate training and technical assistance of all personnel; career exploration and planning that is the basis for selected curriculum; integration of occupational and academic instruction; and assurances of available support services.

The American Youth Policy Forum and Center for Workforce Development (2000) issued a report addressing the sustainability of practices that resulted from the School-to-Work Opportunities Act (STWOA, 1994-2001). Among other things, the group derived ten principles that are representative of key elements of the STWOA that “improve school experience; expand and improve work-based learning; and build and sustain public/private partnerships” (p. 7). While the authors do not specifically refer to the principles as being principles of quality work experience programs, they do refer to the principles as being necessary for program sustainability; the assumption is that quality and sustainability are linked. Of the ten principles, seven are directly linked to elements of sustainable programs:

- promotion of high standards of academic learning and performance;
- incorporation of industry-valued standards that help inform curricula and lead to respected and portable credentials;
- provision of opportunities for contextual learning;
- expansion of opportunities for all youth and exposure to a broad array of career opportunities;
- provision of work-based learning that is directly tied to classroom learning;

- provision of assistance to employers in providing high quality work-based learning opportunities; and
- building and sustaining public/private partnerships.

While the report from the American Youth Policy Forum and Center for Workforce Development addressed program principles related to youth in general, an issue brief published by the National Center on Secondary Education and Transition (NCSET) and authored by Luecking & Gramlich (2003) put forth characteristics addressing quality work-based learning programs relative to youth receiving special education services. This brief include the following characteristics:

- clear program goals;
- clear roles and responsibilities for worksite supervisors, mentors, teachers, support personnel, and other partners;
- training plans that specify learning goals tailored to individual students with specific outcomes connected to student learning;
- convenient links between students, schools, and employers;
- on-the-job learning;
- range of work-based learning opportunities, especially those outside traditional youth employing industries;
- mentor(s) at the worksite;
- clear expectations and feedback to assess progress toward achieving goals;
- assessments to identify skills, interests, and support needs at the worksite;

- reinforcement of work-based learning outside of work; and
- appropriate academic, social, and administrative support for students, employers, and all partners (p.4).

Thematically, the literature presented, irrespective of whether the program descriptions were intended for all students or only students with disabilities, identifies quality work-based learning experiences as those that:

- are structured;
- connect academic and occupational learning;
- make use of community linkages; occur in real work settings; and
- have a strong orientation toward student individualization.

### **School-to-Work Transition Literature**

Programs, interventions and practices related to employment and students with disabilities are considered to be within the field of *secondary* transition. Two systematic comprehensive reviews of the secondary transition literature for the time period beginning in 1984 through March, 2008 have been conducted. The most recent review conducted by the National Secondary Transition Technical Assistance Center (NSTTAC) used a rigorous design to identify evidence-based practices in secondary transition and organized these practices within the widely accepted Taxonomy for Transition Programming developed by Paula Kohler (Test et al., 2009). The domain of Student Development within the Taxonomy for Transition Programming consists of six sub-domains of which three directly relate to employment: (a) Employment skills instruction, (b) Career and Vocational Curricula, and (c) Structured Work Experience. Although not directly mentioned within the taxonomy, it is



logical to place school-based enterprises and service learning within the sub-domain of “structured work experience” while component elements of each type of experience could be considered “employment skills instruction” or “career and vocational curricula.”

The second comprehensive review was from the What Works in Transition: Systematic Review Project (Alwell & Cobb, 2006). While the NSTTAC review held very tight inclusion parameters related to research designs, the latter review included empirical research designs that involved “any form of disciplined inquiry” (p. 6). This review organized its findings into six intervention constructs: (a) counseling, (b) social skills, (c) life skills, (d) vocational skills, (e) self-determination interventions, and the (f) transition planning process (p.6). For the purposes of this dissertation study, the outcomes from each of the six constructs were examined for employment-related content. Based on review of the outcomes, two constructs, *vocational skills* and the *transition planning process* were examined in greater depth including the type of study, quality of evidence, sample demographics, settings, and outcomes.

Because of the currency of these reviews, their national scope and relevance to a focus on career development and transition, the literature search methodology for this dissertation study combined that used in the NSTTAC and What Works in Transition: Systematic Review Project (see Alwell & Cobb, 2006 and Test et al., 2009, for a more detailed accounting). The only modifications were the deletion of intervention terms: *leisure skills instruction*, *life skills instruction*, and *self-determination instruction* and a publication date of December, 2004 to August, 2011.

## **Search Results**

Using the above-delineated search criteria, thirteen studies evidenced one or more of the indicators for being considered a quality work-based learning program (e.g., structured, connected to school-based learning, individualized based on student's strengths and preferences, and occurring in real work settings) as summarized in Table 2.1. These studies were examined using quality indicators for WBL largely informed by Benz and Lindstrom (1997), Hamilton and Hamilton (1997), Phelps and Hanley-Maxwell (1997), Benz and Kochhar (1996) and Luecking (2009) and are identified accordingly in Table 2.2. Finally, the results were examined using the SCANS Framework as referenced in Table 2.3.

## **Examination by Quality Component**

**Structured program.** The Rutkowski, Daston, Van Kuiken, & Riehle (2006) article describing Project SEARCH's demand-side transition model related a highly structured programmatic approach with clear program goals, clearly stated roles and responsibilities for all involved, worksite mentors and appropriate administrative support for students, employers and educators. Brown (2009) and Rogers et al. (2008) each described programs that were structured in terms of having clear program goals, and clearly stated roles and responsibilities but the articles were not convincing as to whether or not a structure existed for appropriate administrative support or workplace mentors. The Rogers et al. article did expound somewhat on their structure for extended job site support once employment was maintained for a period of time.

Table 2.1

*Research Designs, Intervention Components, and Outcomes Measured for All Studies*

Reference	Participants	Setting	Intervention	Outcome(s)
Bates, Cuvo, Miner & Koravek (2001)	20 students with mild MR and 20 with moderate MR	High school special education classroom and community based settings.	Community based instruction versus simulation for 4 skills: grocery shopping, use of a commercial laundry, purchasing a soft drink at a restaurant and janitorial skills related to cleaning a restroom.	<p>Students with Mild MR evidenced generalization from simulation to community better than those with Moderate MR.</p> <p>Community based instruction produced significant post community improvements in all participants.</p> <p>Levels of independence in task performance was achieved more quickly with CBI than with simulation.</p>
Black (1995)	44 Students with MR or LD	High school classroom where students with disabilities receive support related to their traditional vocational education classes.	Classroom-based work awareness curriculum delivered via three one hour instructional periods.	95% of students achieved a higher work awareness score upon post-test.
Brown (2009)	Program description with representative case profile.	School, community rehabilitation program and employer.	Individualized Career Planning Model which included a person-centered discovery session, planning meeting and vocational profile; followed by customized employment.	Participant obtained parttime competitive employment in a setting compatible with his interests and a position customized to his strengths & employer needs.

Table 2.1 Continued

Reference	Participants	Setting	Intervention	Outcome(s)
Cihak, Alberto, Kessler & Taber (2004)	5 transition age youth with moderate intellectual disabilities.	High school special education classroom and local grocery store.	Skills instruction using: Simulation only; Community-based instruction (CBI) only; Combined on the same school day or Combined on consecutive school day.	CBI resulted in the fewest number of instructional sessions to reach target behavior. Combination of CBI and simulation produced more efficient outcomes related to generalization.
Clement-Heist, Seigel & Gaylord-Ross (1992)	4 High school seniors with LD.	Community-based worksite and classroom-based "Employment Skills Workshop".	Weekly 2.5 hour "Employment Skills Workshop" to teach vocational social skills, job search, job keeping, and general work behaviors.	Probes specific to the vocational social skills were administered at the work-site; 8 of the 12 behaviors improved as a function of simulated training in a school setting.
Heller, Allgood, Ware & Castelle (1996)	5 High school students with co-occurring low vision and hearing impairment.	Job sites: drugstore, greenhouse, grocery store, restaurant, hair salon & hospital.	Implementation of dual communication boards.	Increased integration and acceptance in the workplace as demonstrated by 94% of supervisors/co-workers using communication board system and reporting them to be very helpful.

Table 2.1 Continued

Reference	Participants	Setting	Intervention	Outcome(s)
Lieberman, Fujitsubo, & Murray (1997)	16 transition-aged males with Emotional Disturbance	Community-based worksite and classroom-based within a residential treatment facility.	10 week vocational training project consisting of 25 hours per week on a community-based worksite (crew-based) and 7 hours per week of classroom instruction in remedial academics and work-related topics.	63% showed moderate to marked improvements in work habits.
Mechling & Ortega-Hurndon (2007)	3 transition-aged students with intellectual disabilities	Small office space of education building on a post-secondary campus with generalization activities taking place at worksites.	Computer-based video instruction to perform multi-step job tasks.	2 out of 3 students were able to complete chained steps after video instruction (student 3 required additional support). Maintenance data collected at the 4th month after last generalization probe for each student resulted in 100%, 84.2% & 89.5% correct completion.
Mitchell, Schuster, Collins & Gassaway (2000)	3 transition-aged students with intellectual disabilities	Middle school campus	Use of an auditory prompting system to learn job tasks.	Generalization after fading occurred for all 3 students at 100% each day for 3 days to an untrained setting.
Riffel, Wehmeyer, Turnbull, Lattimore, Davies, Stock, et al. (2005)	3 transition-aged students with intellectual disabilities	High school special education classroom.	Use of visual assistant hand-held PC for task completion.	Use of system decreased the need for instructor prompts.

Table 2.1 Continued

Reference	Participants	Setting	Intervention	Outcome(s)
Roessler, R. & Foshee, K. (1996)	23 Students with MR or LD in grades 9-12.	Rural high school classroom and community-based.	Life Centered Career Education (LCCE) curriculum: Occupational Domain.	100% of the students gained in their pre- to post- scores; and 100% made a statistically significant gain on each of the occupational domain competencies; and 100% gained mastery of the competency on the posttest.
Rogers, Lavin, Tran, Gantenbein & Sharpe (2008)	475 transition-aged youth with disabilities as defined within IDEA	School, community rehabilitation program and employer.	Individualized Career Planning Model which included a person-centered discovery session, planning meeting and vocational profile; followed by customized employment.	62% competitively employed with a job retention rate of at least 90 days.
Rutkowski, Daston, Van Kuiken, & Riehle, (2006)	Program description relative to high school students who have completed academic credits and are ages 18-22.	Workplace	Education, Employer and VR system partnership includes classroom-based functional curriculum; job exploration; assessment; supported employment; and competitive employment.	Example provided: At Cincinnati Children's Hospital, one retention specialist supports 60 employees many have been employed for up to nine years.

**Academic connectedness.** Rutkowski et al. (2006) was the only article to demonstrate a clear connectivity to the academic learning of the students. These students had already completed their academic credit; however, were still enrolled in the school system with IEP goals related to applied academics (e.g., reading bus schedules, managing cafeteria money and food choices, etc.). As identified in Table 2, Black (1995), Lieberman, Fujitsubo and Murray (1997) and Roessler and Foshee (1996) had some degree of academic involvement but not evidenced in the research beyond identification. The remainder of the studies did take place during the school year, but clearly did not connect the school-based learning to the work experience program.

**Individualized.** As noted in Table 2, all of the studies other than Lieberman, Fujitsubo and Murray (1997) included some degree of individualization. Rutkowski et al.(2006) was based off of each student's IEP, included initial and on-going assessment to identify skills, interests and support needs at the job site, and included individual training plans tailored to the student. Brown (2009), Rogers et al. (2008), and Black (1995) presented programs that were highly individualized being based on assessment to identify skills, interests and support needs. Brown's program used a person-centered planning approach to eventually develop a pictorial profile for use by the job coach in customizing employment options with employers.

**Community linkages.** Three of the studies included obvious community linkages such as benefits planning assistance and access to adult services. Rutkowski et al.(2006) and Brown (2009), specifically discuss linkages designed to last beyond the scope of their individual programs. Previously when the studies were examined for academic connectedness, only the Rutkowski et al.study was mentioned. However, other studies

included linkages to the school as a major component of their programs including providing interagency training (Rogers et al. 2008), job coaches or other support staff (Rutkowski et al., 2006), and coordination/planning (Brown, 2009 & Rutkowski et al., 2006).

**Workplace settings.** While many of the studies involved some element of workplace settings, the Rutkowski et al.(2006) took place fully at the worksite and in the community, included on-the-job training and consisted of a wide range of work-based learning opportunities including multiple settings. Rogers et al. (2008) related its individual program components as taking place primarily at the interagency partner location with actual employment and on-going support occurring at the worksite. The Brown (2009) study was somewhat unclear as to where the person-centered planning process occurred but was clear that the ultimate goal was competitive employment within the community and the vignette they provide clearly describes work occurring in an authentic workplace setting.



Table 2.2

*Quality Structured Work Experience Components Studied in Intervention Research*

Reference	Quality Components					Intervention Components			
	Structure	Academic Connectedness	Individualized	Community linkages	Workplace settings	Curriculum	School- based Enterprise	Service Learning	Other
Bates, Cuvo, Miner & Koravek (2001)			X		X	X			Community-based instruction
Black (1995)	X	X	X						
Brown (2009)	X		X	X	X				Person-centered customized employment.
Cihak, Alberto, Kessler & Taber (2004)	X		X						Community-based instruction
Clement- Heist, Seigel & Gaylord- Ross (1992)	X		X		X	X			Work-based
Heller, Allgood, Ware & Castelle (1996)	X		X		X				
Lieberman, Fujitsubo, & Murray (1997)	X	X			X	X		X	Work-based

Table 2.2 Continued

Reference	Quality Components					Intervention Components			
	Structure	Academic Connectedness	Individualized	Community linkages	Workplace settings	Curriculum	School- based Enterprise	Service Learning	Other
Mechling & Ortega- Hurndon (2007)	X		X		X	X			
Mitchell, Schuster, Collins & Gassaway (2000)	X		X						
Riffel, Wehmeyer, Turnbull, Lattimore, Davies, Stock, et al. (2005)	X		X						
Roessler, R. & Foshee, K. (1996)	X	X	X			X			
Rogers, Lavin, Tran, Gantenbein & Sharpe (2008)	X		X	X	X		X		NOTE: SBE mentioned as a component not explicitly examined.
Rutkowski, Van Juiken & Rielhe (2006)	X	X	X	X	X	X			Employer-based demand-side model

## **Examination by SCANS Framework**

**Workplace competencies.** As previously discussed, the workplace competencies, according to the SCANS, demonstrate what effective workers can productively use, including: *resources* (i.e., time, money, materials, space and staff), *interpersonal skills* (i.e., working on teams, teaching others, serving customers, negotiating and respecting cultural diversity), *information* (i.e., obtain and evaluate data, organize and maintain files, communicating and using computers to process information), *systems* (i.e., understanding social and organizational systems, monitoring and correcting performance, and designing or improving systems), and *technology* (i.e., selecting equipment and tools, applying technology to tasks, and maintaining and troubleshooting technologies). All of the studies examined included at least acquisition and development of the information competency. There were three studies that included four or five of the identified competency areas. Both Black (1995) and Lieberman, Fujitsubo and Murray (1997) provided student development in the competency areas of *resources*, *information*, *interpersonal* and *systems*; while, Rutowski, Van Juiken and Rielhe (2006) also included *technology*. Despite being able to identify the specific competencies involved in the intervention, only the study by Black makes any attempt to produce student level evaluation data regarding the impact of the intervention relative to student improvement in the competency area.

**Foundational skills.** As previously discussed, the three foundational elements according to the SCANS include: *basic academic skills* (i.e., reading, writing, arithmetic, speaking and listening), *thinking skills* (i.e., creative thinking, decision making, problem solving, knowing how to learn and reasoning), and *personal qualities* (i.e., individual responsibility, self-esteem, sociability, self-management and integrity). Only Lieberman, Fujitsu and Murray and Rutowski et al. (2006) identified interventions that addressed all of the foundational skills. Seven of the thirteen studies specifically addressed personal qualities while five addressed the development of thinking skills. Despite a comprehensive and systematic review of the literature, only the Rutowski et al. (2006) study evidenced all of the quality indicators of a structured work experience program while developing each of the workplace skills identified in the SCANS framework.

Table 2.3

*Structured Work Experience Interventions Aligned with SCANS Framework*

Reference	<u>Workplace Competencies</u>					<u>Foundation Skills</u>		
	Resources	Information	Interpersonal	Systems	Technology	Basic Skills	Thinking Skills	Personal Qualities
Bates, Cuvo, Miner & Koravek (2001)	X	X			X			
Black (1995)	X	X	X	X				X
Brown (2009)								
Cihak, Alberto, Kessler & Taber (2004)	X	X						
Clement-Heist, Seigel & Gaylord-Ross (1992)	X	X	X				X	X
Heller, Allgood, Ware & Castelle (1996)		X	X		X			X
Lieberman, Fujitsubo, & Murray (1997)	X	X	X	X		X	X	X
Mechling & Ortega-Hurndon (2007)	X	X						
Mitchell, Schuster, Collins & Gassaway (2000)	X	X						

Table 2.3 Continued

Reference	<u>Workplace Competencies</u>					<u>Foundation Skills</u>		
	Resources	Information	Interpersonal	Systems	Technology	Basic Skills	Thinking Skills	Personal Qualities
Riffel, Wehmeyer, Turnbull, Lattimore, Davies, Stock, et al. (2005)	X	X						
Roessler, R. & Foshee, K. (1996)	X	X		X			X	X
Rogers, Lavin, Tran, Gantenbein & Sharpe (2008)	X	X	X				X	X
Rutkowski, Daston, Van Kuiken, & Riehle (2006)	X	X	X	X	X	X	X	X

## Summary

Leaders responsible for education and workforce legislation and initiatives have prioritized preparation of youth with disabilities for transition to employment for over twenty-five years. Research has consistently shown that the best predictor of whether or not employment will be achieved after high school is whether or not the youth experienced employment during high school. Furthermore, researchers has identified quality work experience programs as those that are structured, connect academic learning to work, are individualized, contain community linkages and involve workplace settings. Equally important, employers have established that they desire a workforce that possesses foundational skills related to basic academics, thinking skills and personal qualities compounded with competencies that allow workers to productively use resources, interpersonal skills, information, systems, and technology.

Educational reform initiatives have mandated evidence-based practices and interventions be used to deliver instruction in public schools. While the intent may be to deliver rigorous and challenging curriculum through a results-oriented process, there is still a lack of empirical research literature that moves beyond individual component interventions. The focus of this study is to put forth empirical examination of student level outcomes resulting from program participation. While zero studies of school-based enterprises or service learning programs were returned using the empirically validated search criteria, websites, curriculum guides, publications geared toward practitioners and governmentally-sponsored initiative websites related to youth and disability employment abound with implementation guides and model program descriptions. Although

empirical evidence exists for individual instructional components (e.g., using prompts to learn a vocational task), no empirical evidence exists to comprehensively validate the effectiveness of school-based enterprises or service-learning programs with regard to student acquisition of work-readiness skills. Classroom teachers are charged with implementing instructional interventions that affect change at the student level which will longitudinally influence systemic changes. In order to do this, they need a useable evaluation tool that provides a link between what they are teaching, what the student is learning and what employers expect in their employees. The SCANS framework can provide such a model.

As previously discussed, the SCANS framework contains the essential workplace skills that employers continue to indicate are the basis for whether or not an employee is able to obtain and maintain employment. Because the desired adult outcome is employment, the foundation of this dissertation study is the SCANS framework. While the framework outlines the foundational skills and workplace competencies that are necessary, there is not a specific assessment instrument to measure the presence, absence or degree of skills and competencies. To this end, this dissertation study will use the Becker Work Adjustment Profile: 2 to assess these skills, and the data will be analyzed through the SCANS framework.



## **CHAPTER III**

### **RESEARCH DESIGN AND METHODOLOGY**

Current disparities in the post-school employment outcomes of individuals with disabilities compared to those without has supported the conclusion that schools are still struggling to provide students with the skills necessary to obtain and maintain employment. Despite unyielding research that the most reliable predictor of employment after high school is employment during high school (Benz, Lindstrom, & Yovanoff, 2000; Corbett, Clark, & Blank, 2002), school administrators find it challenging to identify specific programs, curricula, and resources to fit the unique needs of students with disabilities while meeting ever changing staff and funding challenges (Bulik, 1994 & Hayes, 2000). Further examination of these issues has identified the need for school leaders to concentrate on assisting students with disabilities in the development of “soft skills” (Rutowski et al., 2006) or “work-readiness skills” as opposed to any specific program of study or vocational trade that would require the use of a specific curricula, technically skilled personnel, or costly resources. The purpose of this study was to investigate the effects of structured work experience programs on the work-readiness skills of students with disabilities.

#### **Context**

The Brazos Valley Employment Project (BVEP) was a 3 year demonstration project (2007-2010) through Texas A&M University. Based on the premise that the best predictor of employment after high school is employment during high school (Benz, Lindstrom, & Yovanoff, 2000; Corbett, Clark, & Blank, 2002), the purpose of the

BVEP, through partnerships between higher education, public schools and the community was to assist schools in designing and implementing structured work experience programs for students with disabilities.

Secondary students with disabilities, secondary schools, and community employers in the Brazos Valley were targeted to participate in this project. Through a competitive application process, two secondary schools per year for a total of six over the three year period served as demonstration sites. The project staff provided technical assistance to each school individually to conduct strengths and needs assessment, review various types of structured work experience program models, and select the model for implementation. Regardless of the specific model chosen, BVEP staff assisted the schools in developing a workplan, assembling a community-based local transition team, and providing on-going technical assistance in all aspects of program implementation along with limited funds to support workplan activities. Additionally, BVEP held an annual seminar for community employers, *Disability in the Workplace*, for the purpose of fostering employer knowledge related to employing and retaining employees with disabilities.

## **Subjects**

### **Population**

**Target population.** The target population in this study was high school students with disabilities in three high schools in Texas. The three schools were targeted for two reasons. First, these schools were among the six schools that implemented structured work experience programs through the Brazos Valley Employment Project (BVEP).

Second, they represented three of the nine community types identified by the Texas Education Agency while all being located in the same geographic region of the state.

**Accessible population.** Of the three high schools that were targeted, students with a primary disability of Mental Retardation, Learning Disability, or Emotional Disturbance who had work experience indicated as part of the Individualized Educational Program (IEP) became the population for the present study.

### **Sampling**

**Method and procedure.** The sample for this study was a convenience sample on the basis of accessibility. The sample was selected using a multi-step procedure. First, each high school was asked to identify one lead professional (e.g. teacher, counselor, transition specialist). Second, each lead professional was asked to identify at least one teacher to participate in the study. Third, students who had a primary disability of Mental Retardation, Learning Disability, or Emotional Disturbance who had work experience indicated as part of the IEP and were in the selected teachers' classes became the sample for the present study. The sampling unit was the student.

**Description of the sample.** This sample consisted of 37 high school students with disabilities who were enrolled in one or more classes of the selected teachers. All of the students were receiving special education services. Descriptive information about student gender, age, primary disability, and ethnicity for the sample is summarized in Table 3.1.

Table 3.1

*Summary of Sample Demographics*

<u>Type of Information</u>	<u>Group</u>	<u>Number</u>	<u>Percentage</u>
Age	14	1	2.7
	15	2	5.4
	16	5	13.5
	17	6	16.2
	18	11	29.7
	19	6	16.2
	20	5	13.5
	21	1	2.7
Gender	Male	21	56.8
	Female	16	43.2
Primary Disability	Mental Retardation	21	56.8
	Learning Disability	11	29.7
	Emotional	5	13.5
	Disturbance		
Ethnicity	Caucasian	19	51.4
	African American	10	27
	Hispanic	8	21.6

To further examine the characteristics of the sample, Tables 3.2 and 3.3  
breakdown disability distributions by gender and age.

Table 3.2

*Disability Distributions by Gender*

Primary Disability	Male Number (Percentage)	Female Number (Percentage)
MR	12	9
LD	5	6
ED	2	3
Total	21	16

Table 3.3

*Disability Distributions by Age in Years*

Disability	14	15	16	17	18	19	20	21	Total
MR	1	1	3	1	6	5	3	1	21
LD	0	1	2	4	3	1	0	0	11
ED	0	0	0	1	2	0	2	0	5
Total	1	2	5	6	11	6	5	1	37

**External Validity Issues**

External validity refers to refers to the degree to which the data in the study can be generalized to other contexts. According to Trochim (2006), there are three major threats to external validity: generalizations involving people, generalizations involving places, and generalizations involving time. Due to the sampling procedures indicated earlier, caution should be used when attempting to generalize beyond the accessible population.

**Instrumentation**

This study used the Becker Work Adjustment Profile: 2 (BWAP:2). This instrument is an observer-rating scale designed to measure the observed vocational

competence, or work-readiness, of individuals ages 12-adult who have been identified as having a physical, intellectual or emotional disability (Becker, 2005).

### **Overview of the Becker Work Adjustment Profile: 2**

**General description.** The BWAP:2 measures work behavior and related activities on a 5-point descriptive-graphic rating tool. According to Cronbach (1960), this type of a rating scale is advantageous in that it draws attention to various deviations that may exist within a particular item. There are a total of 63 items that are categorized within four domains: Work Habits/Attitudes (HA), Interpersonal Relations (IR), Cognitive Skills (SO), and Work Performance Skills (WP). In addition to the sub-scale scores, there is also a composite score, Broad Work Adjustment (BWA).

**BWAP: 2 protocol.** The questionnaire booklet is comprised of 15 pages with a total of 63 items. The cover page contains a brief description of the instrument, how to use the booklet, and scoring criteria for observational items. The final two pages consist of an individual profile form used to summarize and graph the individual's performance. The remainder of the pages contains the 63 items that measure skills of work and job-related activities within four domains: work habits and attitudes (10), interpersonal relations (12), cognitive skills (19), and work performance (22). The description of the behavioral observation scores are outlined in table 3.4.

Table 3.4

*Score Descriptions*

Score	Description
Score 0	Individual is unable, rarely, or never exhibits the behavior although there is opportunity to do so.
Score 1	Individual exhibits the behavior but does not do it well or the result is unsatisfactory.
Score 2	Individual exhibits the behavior and does it fairly well or the result is generally satisfactory but could be improved upon.
Score 3	Individual exhibits the behavior and does it well or the result is satisfactory.
Score 4	Individual exhibits the behavior and does it very well or the result is highly satisfactory.

***Work habits/attitudes.*** This domain contains 10 items measuring an individual's work habits and attitudes including: personal hygiene, appropriate clothing, personal appearance, punctuality, motivation, attendance, dependability, work posture, eating habits and restroom use. Each item is consists of a description followed by a 0-4 scale with each point on the scale containing an observational description. For example, Item 1. PERSONAL HYGIENE: *Bathes, washes, and uses deodorants to maintain body cleanliness.*

0 points      Neglects body care; Dirty

1 point      Often unclean; Body Odor

2 points Usually clean; Occasional odor

3 points Frequently clean; No body odor

4 points Regularly clean; No body odor

The sum the 10 items is the individual's raw score in the work habits/attitudes domain.

***Interpersonal Relations.*** This domain contains 12 items measuring an individual's interpersonal relation skills including: personal relations, group acceptance, cooperation, trustworthiness, accepting correction, helping others, and changes in routine . Each item is consists of a description followed by a 0-4 scale with each point on the scale containing an observational description. For example, Item 11. CHANGES IN ROUTINE: *Response to change in work routine or job assignment.*

0 points Actively refuses; Becomes Upset

1 point Displays reluctance; Grudgingly accepts

2 points Accepts change, but needs encouragement

3 points Accepts change

4 points Willingly accepts change

The sum the 12 items is the individual's raw score in the interpersonal relations domain.

***Cognitive Skills.*** This domain contains 19 items measuring an individual's functional cognitive skills including: basic math, communication, memory, basic reading, basic writing, concept of time, basic money, and following instructions.



Each item is consists of a description followed by a 0-4 scale with each point on the scale containing an observational description. For example, Item 13. FOLLOWING

VERBAL INSTRUCTIONS: *Ability to carry out work instructions.*

- |          |   |
|----------|---|
| 0 points | Becomes confused; Unable to follow      |
| 1 point  | Has difficulty with simple instructions |
| 2 points | Follows most instructions fairly well   |
| 3 points | Follows most instructions well          |
| 4 points | Skillfully follows all instructions     |

The sum the 19 items is the individual's raw score in the cognitive skills domain.

***Work Performance Skills.*** This domain contains 22 items measuring an individual's work performance skills including: correcting errors, work quality, task initiation, work quantity, asking for help, attending to a task, work steadiness, safety, and stamina. Each item is consists of a description followed by a 0-4 scale with each point on the scale containing an observational description. For example, Item 10.

ATTENDING TO A TASK: *Amount of effort applied to the job assignment.*

- |          |                           |
|----------|---------------------------|
| 0 points | Inattentive; Distractable |
| 1 point  | Often wastes time         |
| 2 points | Generally keeps busy      |
| 3 points | Steady worker             |
| 4 points | Extremely industrious     |

The sum the 22 items is the individual's raw score in the work performance domain.

### **Technical Characteristics**

#### **Normative scales.**

**Reliability.** The BWAP:2 reports four types of reliability measures: internal consistency, test-retest, interrater reliability and the standard error of measure (p. 32). The measure for internal consistency, or how well each item on the test relates to other items on the test (Gay & Airasian, 2003) is reported using Cronbach's alpha for each domain and the total composite score for each group used in the standardization sample (see tables 3.5-3.7). The scores ranged from .80 to .93 across domains and from .87 to .91 for the composite (median = .90). The purpose of the test-retest reliability measure is to address the extent to which examinees tend to obtain a similar score, relative to other examinees, upon retaking the same test after an interval of time (Walsh & Betz, 2001). Participants in the standardization sample were administered the test a second time after a two week interval. The measures are reported for each domain and the total composite for each group used in the standardization sample using the Pearson product-moment formula. The scores ranged from .82 to .96 across domains and from .89 to .91 for the composite (median = .90) (see tables 3.5-3.7). Interrater reliability refers to the degree of relationship between the ratings of the same pair of raters who independently rate the same individuals (Becker, 2005). An interrater reliability study was conducted during the standardization process using pairwise teams of certified vocational evaluators to

evaluate 117 adults in sheltered workshop settings with the evaluations typically happening with four days of each other. The interrater reliability measures are reported for each domain and the composite score using the Pearson product-moment formula (see tables 3.7 and 3.8). The scores ranged from .82 to .89 (median = .86).

Table 3.5

*Reliability Coefficients and Standard Errors of Measurement: Mental Retardation (N=105)*

Domain	Item	Test-Retest	Cronbach's alpha	SEM
Work Habits/Attitudes	10	.92	.89	1.45
Interpersonal Relations	12	.89	.86	2.19
Cognitive Skills	19	.96	.93	1.53
Work Performance Skills	22	.87	.88	2.32
Broad Work Adjustment	63	.91	.90	2.73

Table 3.6

*Reliability Coefficients and Standard Errors of Measurement: Learning Disabled (N=90)*

Domain	Item	Test-Retest	Cronbach's alpha	SEM
Work Habits/Attitudes	10	.88	.85	1.85
Interpersonal Relations	12	.91	.87	1.17
Cognitive Skills	19	.92	.90	1.56
Work Performance Skills	22	.86	.90	2.28
Broad Work Adjustment	63	.91	.90	4.57

Table 3.7

*Reliability Coefficients and Standard Errors of Measurement: Emotionally Disturbed (N=88)*

Domain	Item	Test-Retest	Cronbach's alpha	SEM
Work Habits/Attitudes	10	.85	.83	1.88
Interpersonal Relations	12	.95	.91	.91
Cognitive Skills	19	.92	.88	1.92
Work Performance Skills	22	.82	.80	2.04
Broad Work Adjustment	63	.89	.89	5.84

Table 3.8

*Interrater Agreement of BWAP:2 Domains (N=117)*

Domain	Pearson r
Work Habits/Attitudes	.82
Interpersonal Relations	.86
Cognitive Skills	.89
Work Performance Skills	.84
Broad Work Adjustment	.87

**Validity.** The BWAP:2 reports three type of validity measures: content validity, criterion-related validity, and construct validity. Definition and considerations for each is discussed below.

**Content validity.** Content validity is defined by Gall, Gall and Borg (2003) as “the extent to which inferences from a test’s scores adequately represent the content or conceptual domain that the test is claimed to measure” (p. 621). The BWAP:2 presents two dimensions of content validity: 1) rationale related to the four domains and the subtest items and 2) statistical analysis supporting the selection and validation of test items (p. 39). Development of the domains and subtest items are the result of a refinement process that began in 1965 with a vocational behavior scale published by the Ohio Department of Mental Hygiene and Correction (p. 40). This was the predecessor to the first edition of the Becker Work Adjustment Profile (BWAP) and extended by sixteen years of vocational evaluation of various classes and groups of individuals to result in identification of specific behavior items.

The BWAP:2 contains 63 individual behavior items that are classified within four domains. It provides a score per domain and one total composite score. An item analysis and a factor analysis of the domain items were conducted using an equal

representation of males and females (N=1194) from the standardization sample. The scale items were then analyzed using the point biserial correlation technique to yield an index of item discrimination (p. 40). The discrimination index resulted in the following: Work Habits/Attitudes .67, Interpersonal Relations .61, Cognitive Skills .79, Work Performance Skills .65 and Broad Work Adjustment .70. According to Becker (2005), “the magnitude of the indices are at levels that provide evidence for item validity of the BWAP:2 domains” (p. 40).

A factor analysis study was conducted to ascertain the domains foundational to the 63 behavioral observation items. A principal component method using a scree plot and varimax rotation resulted in four underlying factors. According to Brace, Kemp and Snelgar (2006) rotation is a mathematical technique employed by psychologists to facilitate understanding “what psychological constructs might underlie the variables” (p. 312). Becker (2005) reports a factor loading of .40 was chosen to retain the factor with 70.17% of the total common variance accounted for within the domains. “Thus, the BWAP:2 characteristics and content validity of the items that compose each of the scales are supported” (p. 40).

***Criterion-related validity.*** Criterion-related validity is defined by Gall, Gall and Borg (2003) as “types of validity that involve an explicit standard against which claims about a test can be judged” (p. 622). The BWAP:2 scores were intercorrelated with the AAMR Adaptive Behavior Scale (Nihira, Leland, & Lambert, 1993) which is an instrument used to measure vocational and adaptive behavior relative for persons with mental retardation. According to Becker (2005) the BWAP:2 domains

present with moderate to high statistical and practical significance given the size and direction of the coefficients (p.41).

***Construct validity.*** Construct validity is defined by Gall, Gall and Borg (2003) as “the extent to which inferences from a test’s scores accurately reflect the construct that the test is claimed to measure” (p. 621). It is generally recommended that construct validity be addressed by suggesting the constructs that account for test performance, forming hypotheses from theory related to the construct and empirical testing of the hypotheses (Brace et al., 2006, Cronbach, 1960, & Hoyle et al., 2002).

### **Scale Administration**

The BWAP:2 is an observation-based rating scale that can be completed in 15 minutes or less. The evaluator can respond to the items through a first person assessment or a third party assessment. Using the first person assessment, an evaluator (e.g., teacher, rehabilitation counselor, employment specialist) independently scores each item based on the evaluator’s observations of the daily work habits of the individual being assessed. Third party assessment is used when the evaluator has not had sufficient time to observe the person’s daily work habits. With the third party assessment, the evaluator scores items in conjunction with another person (e.g., employer, co-worker, parent) who has knowledge about what the person knows and is able to do. In this study, all of the observations were completed using the first person assessment method.

## **Scoring Procedures and Scores**

Scoring the BWAP:2 is completed in two steps. First, raw scores are obtained by totaling individual item scores in each domain. Second, the composite score (i.e., broad work adjustment) is calculated by totaling the raw scores from each domain.

## **Score Interpretation**

Raw scores from the BWAP:2 can be interpreted using percentiles and/or T-scores using the normative tables from the test administration booklet. Using the T-scores, a vocational competency profile can be graphed to compare the individual's scores with others in selected work-settings and/or according to levels of work support needs. In addition, the individual's scores can be compared from one point in time to another to examine progress and assist in goal development.

## **Procedures**

### **Research Design**

In this section provides information about the research design, data collection procedures and data analysis are discussed.

### **Variables.**

*Independent variables.* The primary independent variable under investigation was time using using pretest – posttest measures. Pretest measures were given before the treatment and posttest measures were given after the treatment. The time elapsing between pretest and posttest varied between participants. Demographic information regarding the students that participated in the treatment is summarized in Table 3.1.

In addition to the primary independent variable, it was hypothesized that type of disability, program type (i.e., school-based enterprise, service learning) and/or number of participant contact hours may have an interactive effect with the treatment. According to Becker (2005), type of disability had effects on measures of work-readiness in the *Becker Work Adjustment Profile:2* scale norms. In consideration of disability type, students had primary disabilities of Mental Retardation, Learning Disability or Emotional Disturbance; however, for analysis purposes, disability was grouped as those having Mental Retardation and those that did not.

***Operationalization of treatment.*** As previously discussed, demonstration sites were selected through a competitive application process. During the application process, schools were asked to identify primary staff for involvement in development and implementation of the program. The first formal meeting between BVEP staff and demonstration site staff consisted of an introduction to the concept of structured work experience as well as an overview of some of the traditional program models (e.g., apprenticeship, school-based enterprise, service learning, work-based learning, and cooperative education). In addition to the different program models, demonstration site staff were introduced to the concept of developing a local transition team using the community transition team model as described by Benz and Blalock (1999). For two weeks following the initial meeting, BVEP staff provided technical assistance, as requested, to assist schools in developing a workplan based on an analysis of their existing strengths, weaknesses, opportunities and threats



(SWOT). The purpose of the workplan was to establish the particular work experience program model to be implemented and establish program goals, objectives and timelines. While each demonstration site was unique in its composition and program implementation, the *structure* existed in the form of *quality* components as discussed previously (i.e., structured, academic connectivity, individualized, community linkages, and workplace settings). Additionally, staff at each demonstration site were provided on-going technical assistance from BVEP staff through the duration of the program and specific training related to using the Becker Work Adjustment Profile: 2. In the sections that follow, a brief overview of each program type is presented.

*Program type: service learning.* One of the three schools that are reported in this study chose service learning as the program type. According to the National Service Learning Clearinghouse, *service learning* is “a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities” (What is Service Learning, para. 1).

One of the major considerations for this demonstration site was their rural location. The majority of their high school graduates remain in the county upon graduation and need to possess skills and connections that will assist them given the local job market. The county in which the school is located has a strong agricultural base with the majority of the jobs being connected in some way to agricultural

production. The demonstration site decided to install a commercial greenhouse and use its horticultural program as the basis for service learning.

One of the features of service learning is that a community service is performed. The students identified their *community* as their local school campus, two nursing homes located within the county and the American Cancer Society. As an example of embedded academic connectivity, the identification of *community* was facilitated through coursework related to civic instruction. Through this service learning project, students participated in campus beautification projects, grew herbs and tomatoes for the school cafeteria, grew poinsettias and delivered them to local nursing home residents and grew and sold daffodils to contribute to the American Cancer Society.

Service learning provides an authentic setting for acquisition and application of work-readiness skills while embedding a sense of civic responsibility. Students in this program worked on teams to identify community needs, generate ideas, and execute their plans. Along the way, they experienced barriers related to lack of knowledge, organizational policies and procedures, budget, differing opinions, and general feasibility issues. Students also experienced growth in demand from publicity and some personal recognitions that were not expected. All of these experiences integrate application of basic academic and thinking skills in the development of self-confidence, resiliency and problem solving skills.

*Program type: school-based enterprise.* Two of the three schools that are reported in this study chose school-based enterprise for the program type. A school-

based enterprise (SBE) is defined as a sustained, school-sponsored, student led activity that engages students in the production of goods and services for the school or the community (Gugerty, et al 2008, p. 19). A summary of the SWOT analyses that was considered by these sites when making their program type selection is provided in Appendix A.

One site chose to implement their SBE as an in-school coffee shop. Students participated in a series of workshops facilitated by BVEP staff in which they developed their business plan, job descriptions, and operations manual. The community partner, a local coffee equipment supplier, provided equipment and supplies at wholesale, training for students at the site, and on-going technical assistance. In addition to student participation in the business planning workshops, students were involved in all aspects of the business including bookkeeping, scheduling, janitorial, customer service, supplies and ordering, marketing, and management.

The other school-based enterprise site chose to implement their SBE as a coffee catering and delivery service. School staff and students at this site developed their business plan and operational guidelines with minimal support from BVEP staff. The local community partner, a coffee roasting company, provided gourmet coffee and supplies at wholesale, business consultation and planning, on-going technical assistance and training to students at the school and at the job site. This community partner did not have a storefront operation, but did have vendor booths at local fairs and community events. As an added value, they hired students to work in

their booths that had been involved with the structured work experience program. Students involved in this SBE were involved in marketing, sales, customer service, janitorial, product demonstrations, and money handling.

The school-based enterprise provides a real business setting for students to acquire and apply skills that employers want in their employees. Students at both schools that implemented this model were involved in the business planning process including idea development, market research, budgeting, marketing and advertising. Students at both schools were also responsible for running the day-to-day operations of the business including staffing, money management, policy development, janitorial, customer service, inventory management, and public relations. These students were able to apply principles related to managing resources, gathering and using information, participating on teams, navigating organizational structures and employing problem solving skills.

***Construct validity of treatment.*** Construct validity refers to the whether or not structured work experience as conceptualized through the Brazos Valley Employment Project really teaches work-readiness skills. This is addressed by comparing the component elements of SBE and service learning with the SCANS theoretical framework used in this study. As outlined in Chapter 2, the SCANS framework is comprised of five workplace competencies and three foundational skill areas. Table 3.9 lists the five SCANS workplace competencies in the left column followed by elements of their implementation in school-based enterprise and service learning in the middle and right columns, respectively. Table 3.10 lists the three

SCANS foundational skills in the left column followed by elements of their implementation in school-based enterprise and service learning in the middle and right columns, respectively.

Table 3.9

*Comparison of SCANS Workplace Competencies to BVEP Components of School-based Enterprise and Service Learning*

SCANS Framework: Workplace Competencies	BVEP Component Elements: SBE	BVEP Component Elements: Service Learning
Using resources (i.e., time, money, materials, space and staff)	Time management Budgeting Maintaining inventory Scheduling workers	Time management Sustainable resources Community donors
Interpersonal skills (i.e., working on teams, teaching others, serving customers)	Working on teams (order taking, order filling, delivery) Serving customers	Community service Working on teams Resource development
Using information	Taking customer orders Replenishing inventory based on consumption Deciding on new products or services based on consumer demand	Identifying needs Using information about climate and growing seasons
Understanding systems (i.e., social and organizational systems)	Supply and demand Chain of command File management	Community service organizations Business systems for loss control Food sustainability
Using technology	Cash register Computer applications for marketing and general business	Computer applications for general business Horticultural/agricultural specific technology

Table 3.10

*Comparison of SCANS Foundational Skills to BVEP Components of School-based Enterprise and Service Learning*

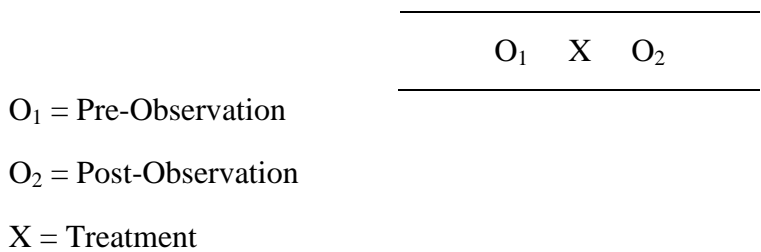
SCANS Framework: Workplace Competencies	BVEP Component Elements: SBE	BVEP Component Elements: Service Learning
Basic academic skills (i.e., reading, writing, math, speaking and listening)	Product comparisons Price per unit Balancing cash drawer Customer service Following directions Business writing	Supply management Budgeting Following directions Business writing
Thinking skills (i.e., creative thinking, decision making, problem solving).	Marketing and advertising Creating operating procedures Planning	Marketing and advertising Planning Identifying community needs and ways to solve the problems.
Personal qualities (i.e., personal responsibility, self-esteem, integrity, social skills)	Constructive criticism Relating to supervisors and co-workers Customer service Task completion Personal hygiene Cash handling	Constructive criticism Relating to others Task completion Personal hygiene Customer service

**Dependent variable.** The dependent variable for this study is a measure of work-readiness using the *Becker Work Adjustment Profile: 2 (BWAP:2)*. This measure consists of four domain scores (work habits/attitudes, interpersonal relations, cognitive skills, and work performance skills) and a broad work adjustment score which is a composite of the domain scores. Raw scores were obtained by teacher completing the *BWAP:2* within two weeks of student entry into the targeted class (pretest) and again within two weeks of the student exiting the class (posttest).

**Research design.** The one-group pretest-posttest design (Shadish, Cook & Campbell, 2002) is used in this study. This design is a within subjects design with a

single group and two measures (pretest – posttest) of the dependent variable and is diagramed in Figure 3.1. This design is appropriate to examine change on the dependent variable and when there are too many independent variables which cannot be controlled either practically or ethically which is the case given variation in program models and instructional delivery.

Figure 3.1 Notational Representation of the Design



**Internal validity issues.** According to Cook and Campbell (1979), the one-group pretest-posttest design is “one of the more frequently used designs in the social sciences” (p.99), but is generally not sufficient for interpreting causal inferences due to five potential threats to internal validity. The potential threats inherent to this design are history, statistical regression, maturation, testing and instrumentation.

History presents as a threat to internal validity in this study; particularly since the length of time between pretest and posttest was variable. However, study participants were from the same geographic region and teachers were asked to keep record of any significant local influences of which there were zero instances reported.

Statistical regression is not a threat to internal validity in this study. This is because study participants were not selected based on levels of performance.

Due to the nature of the classrooms in this study, maturation as a threat to internal validity was substantial. The classes are comprised of individual students ranging in age from 14-21. It is possible that some of the students matured faster than others in relation to developing work-readiness skills.

In this study, testing as a threat to internal validity is minimized because of the observational nature of the test and length of time between pretest and posttest. Additionally, instrumentation was not a threat to internal validity because the *Becker Work Adjustment Profile: 2* was the only instrument used to measure work readiness skills.

### **Data Collection**

Teachers completed the *Becker Work Adjustment Profile: 2* for each student in their classroom within two weeks of the student's entry into the class to ensure each teacher had ample time to observe the student. The researcher trained the teachers on administering and scoring the instrument at the beginning of each semester. Posttests were completed within two weeks of each student's dis-enrollment from the class. Raw scores and basic demographic were provided to the researcher for analysis.



## **Data Analysis**

Two types of data analyses were conducted: descriptive analyses and inferential analyses. All statistical analyses were conducted using Statistical Package for the Social Sciences (SPSS) version 20.0.

**Descriptive analysis.** Descriptive analyses were conducted to summarize the overall performance on each of the four domains in the *Becker Work Adjustment Profile: 2* and on the broad work adjustment score; performance by type of disability, age and gender. The purpose of the descriptive analyses was to meaningfully describe the raw data.

**Inferential analysis.** Inferential analyses were conducted to answer the primary research question and the exploratory research questions for this study. The primary research question was, “What is the effect of participation in structured work experience on the work-readiness skills of students with disabilities?” The three exploratory research questions were: (1) Does type of disability affect student work-readiness skills as measured by posttest gain scores when controlling for number of participant contact hours? (2) Does the type of program affect student work-readiness skills as measured posttest gain scores when controlling for number of participant contact hours? And (3) Does an interaction effect between disability type and program type affect student work-readiness skills as measured by posttest gain scores when controlling for number of participant contact hours?

**Statistical hypotheses.** Based on the research questions, one statistical hypothesis was proposed for the primary research question. This hypothesis stated that there was a statistically significant difference pretest to posttest on work-readiness skills by participation in structured work experience. Additionally, three hypotheses were proposed for the three exploratory research questions. These hypotheses were: (1) type of disability affects work-readiness skills, (2) program type affects work-readiness skills and (3) Interaction between disability type and program type affects work-readiness skills.

**Dependent sample *t* test.** To examine the first research question, a dependent sample *t* test was conducted to examine if mean differences existed on the dependent variable by independent variable (pretest vs. posttest). Dependent sample *t* test for correlated means is an appropriate statistical analysis if each of the two samples can be matched on a particular characteristic. Given an alpha set at 0.05, when a calculated *t*-value is larger than the critical *t*-value, after considering degrees of freedom (df) for dependent samples ( $N - 1$ ), the hypothesis is tenable. The dependent samples test of correlated mean differences assumes normal distribution or a curve that is bell shaped and symmetrical. The assumption of normality was examined with a One-Sample Kolmogorov-Smirnov (KS) test.

**Analysis of covariance (ANCOVA).** To investigate the exploratory research questions, an analysis of covariance (ANCOVA) was conducted to assess differences between independent variables on a single dependent variable after controlling for the

effects of one covariate. In this analysis, the posttest gain for broad work adjustment was compared by type of disability and type of structured work experience program.

Independent variable 1, type of disability, has two groups (students who have a primary disability of Mental Retardation and students who do not). Independent variable 2, type of structured work experience program, has two groups (service learning and school-based enterprise). The control variable is number of participant contact hours. The covariate was chosen specifically because of known effects on the dependent variable. The purpose was to partial-out the effects of participant contact hours on the dependent variable to determine if the effects were strictly due to the covariate or if the differences were independent of the effects of that covariate.

The  $F$ -test of significance was used to assess the main and interaction effects.  $F$  is the between-groups variance (mean square) divided by the within-groups variance (mean square). When the  $F$  value is greater than 1, more variation occurs between groups than within groups. When this occurs, the computed  $p$ -value is small and a significant relationship exists. If significance is found, comparison of the original and adjusted group means can provide information about the role of the covariates. Because predictable variances known to be associated with the dependent variable are removed from the error term, ANCOVA increases the power of the  $F$  test for the main effect or interaction. Essentially, it removes the undesirable variance in the dependent variable. The assumptions of normality and homogeneity of variance was assessed. Normality assumes that the scores are normally distributed (symmetrical bell shaped) and was assessed using the one sample Kolmogorov Smirnov (KS) test. Homogeneity of variance

assumes that both groups have equal error variances and was assessed using Levene's test.

### **Summary**

This chapter presented information about the methodology used in this study. It described the subjects, instrumentation and procedures of this study.

## CHAPTER IV

### RESULTS

The purpose of this study was to investigate the effects of structured work experience on the work-readiness skills of students with disabilities. Specifically, the study examined whether participation in a structured work experience program improved student work-readiness skills. The study also explored the influence of the number of participant contact hours relative to student outcomes and whether or not disability, or type of program, affected student outcomes.

This chapter presents the results of the study in four sections: a description of the sample participants; descriptive statistics of the participant's performance; inferential analysis of the data; and an examination of the effects of type of disability and program type while controlling for number of participant contact hours.

#### Sample

As identified in chapter three, a total of 37 high school students with disabilities were selected for participation in this study. All of the students received both the pretest and the posttest using the *Becker Work Adjustment Profile: 2*. There were three schools represented in this study. All of the schools were from the same geographic region, but represented different community types as defined by the Texas Education Agency. The three community types were (1) *rural*, meaning an enrollment between 300 and the median district enrollment for the state and an enrollment growth rate over the past five years of less than 20 percent, or an enrollment of less than 300 students; (2) *other central city*, meaning it is located in a county with a population of between 100,000 and 749,999

and its enrollment is the largest in the county, or at least 75 percent of the largest district enrollment in the county; and (3) *independent town*, meaning it is located in a county with a population of 25,000 to 99,999 and its enrollment is the largest in the county or greater than 75 percent of the largest district enrollment in the county. Among the 37 participants, 13 (35%) were from the *rural* district, 11 (30%) from the *other central city*, and 13 (35%) from the *independent town*.

### **Demographic Data on Participants**

Demographic information is summarized in Table 4.1 for the thirty-seven participants including age, gender, type of disability, and racial origin. The sample is comprised predominately of males (56.8%) with an average age of 17.5 years, while females (43.2%) have an average age of 18.25 years. The majority (56.8%) of the students in this study are classified as having mental retardation as the primary disability followed by students with learning disabilities (29.7%) and emotional disturbance (13.5%). The majority of the students in the study were Caucasian (n=19, 51.4%) with African American (n=10, 27%) and Hispanic (n=8, 21.6%).

Table 4.1

*Participant Demographic Data*

Type of Information	Classification	Participants (n=37)
Age	Minimum	14
	Maximum	21
	Range	7
	Mean	17.81
	SD	1.61
Gender	Male	21 (56.8%)
	Female	16 (43.2%)
Primary disability	MR	21 (56.8%)
	LD	11 (29.7%)
	ED	5 (13.5%)
Race	Caucasian	19 (51.4%)
	African American	10 (27%)
	Hispanic	8 (21.6%)

### Descriptive Statistics of Student Performance

Descriptive statistics summarizing the participants' work-readiness scores are presented in table 4.2. The average pretest broad work adjustment score for the entire sample was 134.77. In the posttest, the average score for the entire sample was 154.94. The total mean gain score was 20.17.

Table 4.2

#### *Descriptive Statistics of Work-Readiness Pretest and Posttest for Sample*

Statistics	Pretest	Posttest
Minimum	50	40
Maximum	211	236
Range	161	196
Mean	134.77	154.94
SD	43.94	53.92

*Note.* The highest possible score on the *Becker Work Adjustment Profile: 2* is 252.

Tables 4.3 and 4.4 summarize descriptive statistics of the sample by gender and disability type, combining the LD/ED group to comprise those without MR.



Table 4.3

*Descriptive Statistics of Work-Readiness Pretest and Posttest by Gender*

Gender	Statistics	Pretest	Posttest
Male ( <i>n</i> =21)	Minimum	50	40
	Maximum	190	218
	Range	140	178
	Mean	121.93	139.61
	SD	43.06	53.92
Female ( <i>n</i> =16)	Minimum	75	80
	Maximum	211	236
	Range	136	156
	Mean	151.63	175.06
	SD	40.33	46.90

Table 4.4

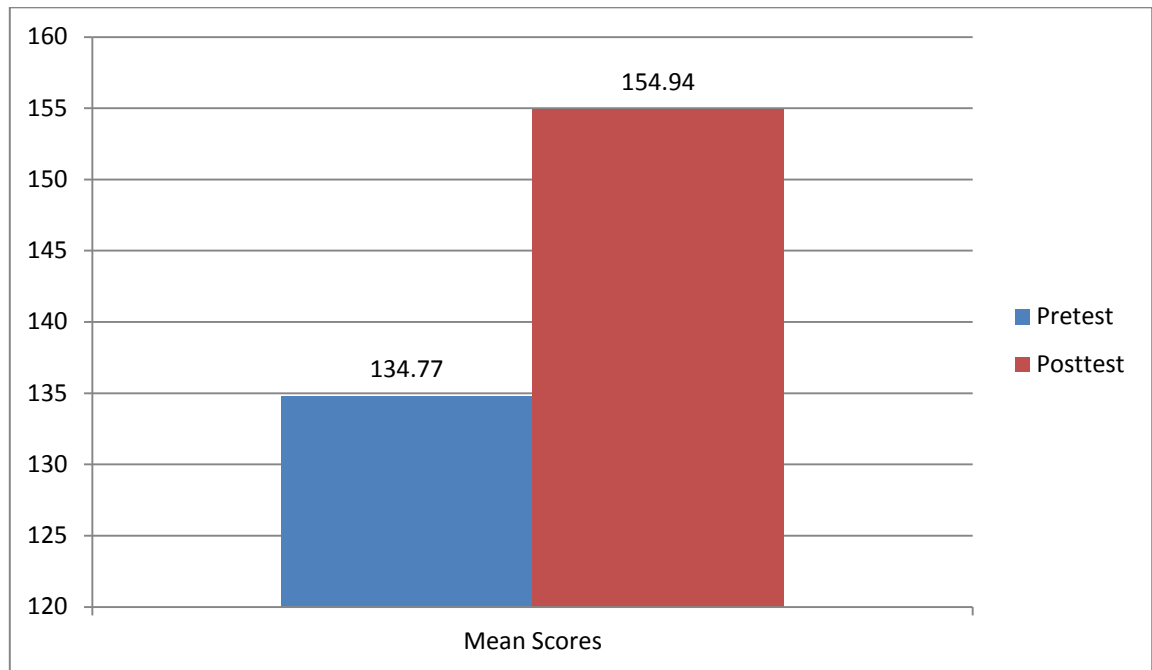
*Descriptive Statistics of Work-Readiness Pretest and Posttest by Disability*

Disability	Statistics	Pretest	Posttest
MR ( <i>n</i> =21)	Minimum	59	40
	Maximum	169	209
	Range	110	169
	Mean	121.17	137.26
	SD	33.95	44.84
LD/ED ( <i>n</i> =16)	Minimum	50	58
	Maximum	211	236
	Range	161	178
	Mean	152.63	178.16
	SD	49.97	57.31

## Outcome of the Treatment

The primary research question, “What is the effect of participation in structured work experience on the work-readiness skills of students with disabilities?” was assessed using a dependent sample *t* test to examine if mean differences existed on the dependent variable by the independent variable (pretest vs. posttest). As shown in Figure 4.1, there was an overall increase work-readiness skills for students with disabilities pretest to posttest.

Figure 4.1 Work-Readiness Pretest-Posttest Gains



*Figure 4.1* Work-readiness scores represented by mean scores for students with disabilities as measured by the *Becker Work Adjustment Profile: 2* composite broad work adjustment score.

## Statistical Procedures for Hypothesis Testing

**Dependent samples *t* test.** The hypothesis for the primary research question is that there is a statistically significant difference pretest to posttest on work-readiness skills by participation in structured work experience. The dependent samples *t* test (or repeated measures *t* test or paired sample *t* test) tests group mean differences using data collected from the same sample.

**Tests of assumptions.** For the dependent samples *t* test, there are three basic assumptions that should be met. One assumption is that the sample differences should be normally distributed. This assumption was tested and met using the non-parametric statistic, *Kolmogorov-Smirnov* test. The second assumption is that the samples should be dependent. This assumption was met, as all 37 students had both pretest and posttest scores. Finally, the third assumption is that the samples should be of equal size; again, met by having 37 pretest and 37 posttest scores.

The dependent samples *t* test showed an average increase of the measure of work-readiness (i.e., broad work adjustment score) of 20.17 in the sample of 37 students. The dependent sample *t* test was used to account for individual differences in the work readiness of students. The observed increase is significant ( $p=.000$ ). Therefore, the hypothesis that there is a statistically significant difference pretest to posttest on work-readiness skills by participation in structured work experience remains tenable. We can assume with 99.9% confidence that the observed increase in the broad work adjustment score can also be found in the general population. With a 5% error rate we can assume that the gain in the broad work adjustment score will be between 14.32 and 26.88 points.

**Analysis of covariance.** Analysis of covariance (ANCOVA) was used to test for the three exploratory hypotheses: (1) Type of disability affects work-readiness skills, (2) program type affects work-readiness skills, and (3) interaction between disability type and program type affects work-readiness skills.

The purpose of the ANCOVA was to analyze the influences of disability type and program type on the pretest-posttest gain on the broad work adjustment score (dependent variable) while removing the effect of the number of participant contact hours (covariate). Thus, the ANCOVA increases the statistical power by attempting to explain some of the variance within the scores.

**Tests of assumptions.** Assumptions of normality, homogeneity of variance, and homogeneity of regression are relative to the ANCOVA model (Glass & Hopkins, 1996; Statistical Solutions, 2012). Normality implies that for each group, the sampling distribution of means is normally distributed. Normality was tested and met using the non-parametric statistic, *Kolmogorov-Smirnov* test.

Homogeneity of variance, which means that all variances are equal with variations across the factor levels, was tested using the Levene's Test of Equality, which was not significant ( $p=.195$ ). Thus, the homogeneity of variance assumption was met.

Finally, the assumption of homogeneity of regression in the ANCOVA model means that the regression of the dependent variable on the covariate is similar in every cell. This implies that the slope of the cells would be different if there was an interaction effect between the independent variables and the covariate. To test for interaction effects, a custom ANCOVA model was used to examine the interaction between

disability type (independent variable) and participant contact hours (covariate), and program type (independent variable) and participant contact hours (covariate). Both of these analyses were not significant with an alpha at .05 indicating that the assumption of homogeneity of regression was met. The results of this test are summarized in Table 4.5.

Table 4.5

*Test of the Assumption of Homogeneity of Regression Slopes*

Source	Type III SS	df	Mean Square	F	Sig.
Interaction (Program by Contact Hours)	95.037	1	95.037	.628	.434
Interaction (Disability by Contact Hours)	22.747	1	22.747	.080	.780

*Note:*  $p < .05$

**Effect of Disability Type and Program Type**

In addition to the primary research question, this study also proposed three exploratory research questions. These questions were: (1) Does type of disability affect student work-readiness skills as measured by posttest gain scores when controlling for number of participant contact hours? (2) Does the type of program affect student work-readiness skills as measured posttest gain scores when controlling for number of participant contact hours? (3) Does an interaction effect between disability type and program type affect student work-readiness skills as measured by posttest gain scores when controlling for number of participant contact hours? Three null and alternative hypotheses were generated. To investigate the exploratory research questions, an

analysis of covariance (ANCOVA) was conducted to assess differences between independent variables on a single dependent variable after controlling for the effects of one covariate.

**Exploratory Hypothesis 1: Type of disability affects work-readiness skills.**

Hypothesis 1 proposed that there would be a significant difference between those with a primary disability of mental retardation (MR) and those without (i.e., LD/ED) on the pretest-posttest gain scores on the dependent variable after controlling for the number of contact hours each student participated in the structured work experience. The ANCOVA model was used to investigate the hypothesis that the observed differences in mean gain on broad work adjustment scores is caused by differences in disability type. However, as summarized in Table 4.6, the ANCOVA found there was no statistically significant mean difference between students that have a primary disability of MR and those that do not (i.e., LD/ED) ( $F= 2.817, p < .103$ )—that is after the effect of the number of participant contact hours has been accounted for.

**Exploratory Hypothesis 2: Program type affects work-readiness skills.**

Hypothesis 2 proposed that there would be a statistically significant difference in the mean gain scores on the broad work adjustment measure between participants of service learning and school-based enterprise after controlling for the number of participant contact hours. The ANCOVA model was used to investigate the hypothesis that the observed differences in mean gain on broad work adjustment scores is caused by participation in different types of structured work experience programs. As summarized in Table 4.6, the ANCOVA found, after controlling for number of contact hours, there

was a statistically significant mean difference between students that participated in service learning versus school-based enterprise ( $F= 29.213, p < .001$ ).

Follow-up tests were conducted to evaluate pairwise differences among the adjusted means for broad work adjustment gain scores. The results showed that students that participated in service learning ( $M = 38.85$ ) had significantly higher gains in broad work adjustment scores when controlling for number of participant contact hours than those that participated in school-based learning ( $M = 9.96$ ). In addition to statistical significance, effect size was calculated using partial eta squared ( $h_p^2$ ) where  $h_p^2 = .474$ .

**Exploratory Hypothesis 3: Interaction between disability type and program type affects work-readiness skills.**

Hypothesis 3 proposed that interaction between disability type and program type would produce a statistically significant difference in the mean gain scores on the broad work adjustment measure after controlling for the number of participant contact hours. The ANCOVA model was used to investigate the hypothesis that the observed differences in mean gain on broad work adjustment scores is caused by interaction between disability type and program type. As summarized in Table 4.6, the ANCOVA found, after controlling for number of contact hours, there was not a statistically significant mean difference related to interaction between disability type and program type ( $F= .043, p < .837$ ).

Table 4.6

*Analysis of Covariance for Broad Work Adjustment by Disability and Program Type*

Source	SS	df	MS	F	P
Participant Contact Hours	1193.00	1	1193.00	7.73	.009
Disability Type	434.72	1	434.72	2.82	.103
Type of Program	4507.39	1	4507.39	29.21	.000
Disability by Program	6.65	1	6.65	.043	.837
Error	4937.48	1	154.30		
Total	26136.36	1			

### Summary

Chapter IV presented the results from this study. Specifically, descriptive statistics were provided that summarized the sample and the results of the dependent samples *t* test and ANCOVA were presented.

The results indicated that students that participated in structured work experience had an overall positive effect as measured by statistically significant gains from pretest to posttest on the broad work adjustment score. The results of the ANOCOVA, while controlling for the number of participant contact hours, indicated that: (a) type of disability was not a statistically significant main effect, (b) type of program did produce a statistically significant main effect, and (c) the interaction between disability type and program type did not produce a statistically significant interaction effect.



## **CHAPTER V**

### **CONCLUSIONS**

#### **Introduction**

In the preceding chapter, the presentation and analysis of data have been reported. This chapter begins with a summary of the study and is followed by the major findings related to the effects of structured work experience on the work-readiness skills of students with disabilities. Conclusions from the findings of this study are discussed in relation to the SCANS theoretical framework as described in chapter two. Finally, implications for practice and recommendations for further research are presented and discussed.

#### **Summary of the Study**

This study examined whether the effects of participation in a structured work experience program improved student work-readiness skills. Specifically, 37 participants with disabilities participated in either a school-based enterprise or service learning program while enrolled in one of three high schools involved in the study. A quasi-experimental, one-group pretest-posttest design was used, where teachers evaluated the work-readiness skills of students using the *Becker Work Adjustment Profile: 2* within two weeks of student entry into the work experience program, and within two weeks of exiting the program.

#### **Summary of the Major Findings of the Present Study**

In this section, a summary of findings of the present study is presented. The summary includes findings relative to the primary and exploratory research questions.

To answer the primary research question, a dependent samples *t* test was used to determine if there was a statistically significant mean difference in pretest to posttest gains. The dependent samples *t* test showed there was a statistically significant increase pretest to posttest on the measure of work-readiness (i.e., broad work adjustment score) of 20.17 in the sample of 37 students.

To answer the three exploratory research questions, a factorial analysis of covariance (ANCOVA) was conducted to test three corresponding null hypotheses. The null hypotheses were: (1) while controlling for the number of contact hours, type of disability does not affect work-readiness skills; (2) while controlling for the number of contact hours, type of program does not affect work-readiness skills; and (3) while controlling for the number of contact hours, the interaction between disability type and program type does not affect work-readiness skills.

Using the number of participant contact hours as the covariate, the ANCOVA model analyzed the main effect of disability type and program type, and the interaction effect of disability and program type. Results of the analyses indicated that (a) disability type was not a statistically significant main effect in affecting the work-readiness of the participants ( $F = .951, p > .05$ ), (b) program type produced a statistically significant main effect in affecting the work-readiness of the participants ( $F = 28.78, p < .000$ ), (c) there was no statistically significant interaction effect between disability type and program type ( $F = .043, p > .05$ ), and (d) number of participant contact hours produced a statistically significant main effect in affecting the work-readiness of the participants ( $F = .7732, p < .009$ ).

## **Interpretation of the Findings**

The goal of this study was to identify the effect of participation in structured work experience programs on the work-readiness skills of students with disabilities. In this section, findings of the present study are interpreted and discussed relative to the primary and exploratory research questions.

### **Effect of Participation in Structured Work Experience**

This research question really asks whether students with disabilities who participate in structured work experience make measureable gains in their work-readiness skills. Examination of the mean scores indicates that the group mean moves from an average of 134.77 (pretest) to 154.94 (posttest). This is an average mean gain of 20.17. While it is possible that this finding could be in error, the  $t_{36} = -6.995$ , which means that the average difference score was almost seven standard deviations from a zero difference mean. In other words, it is highly unlikely that the gain was caused by chance.

### **Effects of Disability and Type of Program**

The ANCOVA model was used to investigate whether type of disability or type of structured work experience program were main contributing factors to the work-readiness skills of students with disabilities.

**The effect of disability type while controlling for contact hours.** As indicated in Table 4.6, the F value for the effect of disability type on the measure of work-readiness was 2.82, which is not significant at the .05 level. According to Brace, Kemp and Snelgar (2006), this means that the mean gain from pretest to posttest does not differ

significantly from those with a primary disability of mental retardation and those with a primary disability of learning disability or emotional disturbance.

**The effect of program type while controlling for contact hours.** As indicated in Table 4.6, the F value for the effect of program type on the measure of work-readiness was 29.21, which was significant ( $p = .000$ ). The covariate, participant contact hours, was held constant at 213.22 to estimate the mean group differences assuming that all participants had the same number of contact hours. Based on the constant, the mean difference (gain) score for those that participated in service learning was 38.85 and school-based enterprise was 9.96. This means that 95% of the time, the service learning gain score would be between 30.15 and 47.54. For school-based enterprise the gain score would be between 3.83 and 16.09. The partial eta-squared value calculated is .474. According to Pierce, Block & Angunis (2004) caution is necessary in reporting eta-squared values because they can be upwardly biased; however, reporting is indicated when an index of strength is desired that excludes variance from other factors such as the covariate of participant hours used in this study. Based on the .474  $h^2$  value, the interpretation is that 47.4% of the variance in mean gain scores can be associated to program type.

### **Discussion of the Findings**

This discussion addresses (a) comparisons to findings of previous studies, (b) potential threats to internal validity, (c) satisfying the posed hypotheses, and (d) limitations of this study.

## **Comparisons to Findings of Previous Studies**

Previous researchers (Benz, Yovanoff, & Doren, 1997; Lindstrom, Doren, & Miesch, 2011; Luecking & Fabian, 2000; NLTS2, 2006; Wagner, 1991) have consistently shown a connection between employment during school and employment after exiting from high school. Additionally, federal policies and initiatives related to preparation of students with disabilities for post-secondary employment have increased with intensity over the past thirty years (IDEA, 1990; IDEA, 1997; IDEIA, 2004; NCLB, 2001). However, there are few intervention studies that address implementation of work experience programs for students with disabilities (Kohler & Chapman, 1999; Kohler, 2003; Test et Al., 2009). Additionally, while data exists relative to the achievement of employment as a post-school outcome (i.e., NLTS-2), research that examines the acquisition of work-readiness skills that are requisite to obtaining and maintaining employment is elusive.

**Comparisons to work experience intervention studies.** Chapter II of this dissertation study presented the elements of a quality structured work experience program (i.e., structured, academic connectivity, individualized, community linkages, and workplace setting). Two previous studies were identified as containing the elements of quality structured work experience programs, and both yielded results similar to this dissertation study.

Rutowski et al. (2006) describe Project SEARCH, a high school transition program for students with disabilities 18-22 years of age. The primary purpose of Project SEARCH is to prepare participants with significant disabilities for competitive

employment through a collaborative approach. Findings from 23 participants who completed the program between 2003-2005 include a 78.3% post-program competitive employment rate, with overall student improvement in specific skill areas measured (i.e., career exploration, job-specific skills, employability, communication, and independent living). While this dissertation study did not include the collection of competitive employment rates, the measure of work-readiness (i.e., broad work adjustment score) encompassed the specific skill areas included in Project SEARCH. While differences exist between Project SEARCH and this dissertation study regarding specific outcome measures, findings from this dissertation study indicate a significant pretest-posttest gain in work-readiness skills, which are requisite for obtaining and maintaining employment (Ju et al., 2012); which are implied by Project SEARCH since competitive employment is the ultimate outcome.

In another study, Kohler (1994) evaluated a vocational training and transition planning program that included an on-the-job training curriculum. The curriculum included classroom-based and community-based instruction designed to increase student proficiency in work-related behaviors. Similar to this dissertation study, Kohler used a single group, pretest-posttest design with a convenience sample (n=58) across five schools and reported similar findings that students showed an overall increase in pre- to post- scores on measures related to work-readiness. While this dissertation study and the Kohler study both involved the implementation of a structured work experience program across multiple sites, the Kohler study used the same curriculum at each site while this study used the same basic structure at each site but had variations of programs (i.e.,

school-based enterprise at two sites and service learning at one site). Both studies showed overall improvement on the dependent variable and variations in improvement levels from site to site. However, in this dissertation study, it is not possible to identify if the variation is due to the type of program implemented or other factors, although variation between sites was similar to the variation noted in Kohler's study.

The results of this study are consistent with those reported by Rutowski et al. (2006) and Kohler (1994), in support of structured work experience programs contributing to the acquisition of work-readiness skills. Additionally, this study extends the existing knowledge-base by incorporating the use of an assessment instrument in measuring work-readiness skills. Lack of attention to assessment practices has been a concern of educators in attempting to link structured work experience programs with accountability requirements (Dymond, Renzaglia, & Chun, 2008; Phelps & Hanley-Maxwell, 1997).

**Comparisons to studies reporting effects based on type of program.** The findings of this study support and expand what is currently known about the effects of different types of work experience programs. For example, since the initial descriptive and correlational studies identifying the elements of quality structured work experience programs (e.g., Gutcher, 1976; Hasazi et al., 1985; Hoyt, 1987b; Stern et al., 1990), and continuing into the 2000s (e.g., Benz et al., 1997; Brooke, 2009; Hoyt, 1994; Kohler, 1996; Luecking, 2009; Phelps & Hanley-Maxwell, 1997), we have known that participation in work experience programs during high school that are structured, connected to academics, individualized, and occur in real work settings lead to better

postschool employment outcomes. Though the findings of this study provide further support for these same variables, it also extends the list to include an entry point for comparative analysis between types of structured work experience programs.

### **Possible Threats to the Internal Validity**

As identified in Chapter III, there are typically five threats to internal validity that are inherent to this research design (i.e., history, statistical regression, maturation, testing, and instrumentation). Specific to this study, history and selection-maturation were the two most probable threats. Local history is an unlikely threat in this study as study participants were from the same geographic region and teachers were asked to keep record of any significant local influences, of which there were zero instances reported.

In absence of a control group, selection maturation as a threat to internal validity was examined by calculating a Pearson coefficient between pretest scores and age (.033) and posttest scores and age (.036). According to Dusick (2011), a coefficient of .16 or less is generally considered to be too low to be meaningful. Applying this standard, the correlation between scores and age for both the pre- and posttest measures is not meaningful. This implies that the magnitude of the relationship between score and age did not change pre- to posttest, indicating that maturational change most likely was not a threat in this study (Gall, Gall, & Borg, 2003).



## **Implications for Practice**

With schools being held accountable for the post-school outcomes, including employment, of students with disabilities (IDEIA, 2004), the findings of this study have relative implications for those interested in preparing students with disabilities for the workforce. The findings from this study provide support for improving the quality and availability of structured work experience programs and the overall benefits associated with participation in structured work experience. Persons interested in school-to-work transition, policy, and research will find the connections between structured work experience and student achievement on work-readiness measures useful.

**Implications for participation in structured work experience.** The positive connectivity between work experience during high school and employment after high school for students with disabilities has been well established in the literature (Benz, Lindstrom, & Yovanoff, 2000; Corbett, Clark, & Blank, 2002). It is also known that while the school system is responsible for the education of students, it is employers who ultimately decide who is and who is not employable. While the findings from this study do not speak to whether or not students obtain employment after high school, the significant increase in the overall measure of work-readiness supports the notion that employability skills desired by employers (USDOL, 1991, 1993; Ju et al., 2012) are able to be acquired through participation in structured work experience programs.

Based on this finding, one important implication for future practice is that administrators and educators should focus on offering *structured* work experiences. Many student IEP documents make note of the need for student participation in work

experience, but little emphasis is placed on how this experience will occur (Landmark, 2010). Additionally, previous researchers have called for work experience to be delivered in an inclusive, coordinated, and community-centered manner, and noted that the lack of structure has created a fragmented and disjointed system with a population that is most in need of continuity (Phelps & Hanley-Maxwell, 1997). A reasonable approach to tackle this issue is for educators to view structured work experience as any other curriculum that may be present in school (i.e., contains measureable goals and objectives, uses a scope and sequence, has curriculum-based performance measures).

Building on the focus of *structure*, an additional implication of this finding is the emergence of the need for educators to use a curriculum-based assessment. This is important for primarily two reasons, school accountability and workplace competency understanding. Educational accountability for academics is measured annually (NCLB, 2001), whereas accountability related to post-school outcomes is not assessed until at least one year after the student exits from high school (IDEIA, 2004). This creates a disconnect for teachers, as pedagogically teachers rely on continuous assessment to adjust instructional content and methods to maximize opportunities for student improvement. Secondly, in order for teachers to adequately prepare students for the workplace, it is essential they understand workplace competencies. Using an observational-based assessment measure that is based on work-readiness skills deemed important by employers has a direct benefit to teachers and students in being able to identify the specific behaviors that encompass work-readiness skills instead of subjective or abstract concepts.

**Implications based on type of program.** Results of this study showed a statistically significant difference based on type of program with service learning producing larger gains than school-based enterprise. Caution with this use of this finding is advised as there were three separate high schools involved in this study. While the number of overall participants for service learning and school-based enterprise were pretty comparable, the service learning program was only implemented at one of the three sites. This finding may be reflective of a difference in the site instead of a true difference in the type of program. While this finding provides an entry point for comparative analysis between types of programs, one implication is that educators should focus on making sure any program that is implemented contains the elements of a quality structured work experience program (i.e., structured, connected to academics, individualized, contains community linkages, and authentic work). Dymond, Renzaglia, and Chun (2008) conducted a review of high school service learning programs seeking to define the elements of a quality service learning program, of the twelve elements they noted, all of the elements noted in this dissertation study as defining *quality structured work experience* were included in the twelve (see Dymond et al., 2008, for full description). These findings together provide information that can be used to develop targeted work experience programs aimed at increasing the work-readiness skills of youth with disabilities.

**Implications based on number of participant contact hours.** The number of participant contact hours was used as a controlling variable in this study as it would seem logical that student skills would increase as the number of hours of participation

increased. This significant finding was not surprising; however, no evidence emerged that would lend direction to whether or not there may be a certain point at which a plateau effect may be achieved. This is an important consideration for practitioners as more emphasis is placed on developing structured work experience programs that use curriculum-based assessment measures, this finding may suggest a starting point from which educators can build their scope and sequence and contribute to the development relevant performance indicators based on frequency of instruction.

**Implications based on anecdotal information.** Although this study used quantitative methodology to answer the research questions, there were many beneficial observations made by those involved in the program development and implementation process that are important to note.

Teachers reported social, emotional, and inclusive benefits to students. Teachers and administrators at one demonstration site observed that students who were typically in a self-contained classroom for students with emotional disturbances, had better attendance, fewer behaviorally-related office referrals, and were motivated to perform academic tasks when they were participating in the work program. In the course of working with the schools as they implemented their programs, this researcher had the opportunity of observing students at various stages in the process. On one occasion, I commented to the school administrator about a student who I had observed on many times. I told the administrator that the student always seemed very pleasant, had a terrific smile and was great at customer service. The administrator noted that the student was rarely at school and when the student was at school, most of the student's time was spent

in the principal's office for behavioral concerns. This was very contrary to what I had observed on multiple occasions. I followed-up with the classroom teacher regarding the conversation with the administrator. The teacher confirmed that the student demonstrated very different behaviors when able to be involved in the work program.

Another observation reported by staff at each demonstration site was related to student inclusion. Students had opportunities to interact with other students, school staff and the community that they otherwise may not have had. For example, one demonstration site embedded the use of various classes, programs, and clubs in their day-to-day program operation. They had students come up with weekly trivia questions that the media program announced in conjunction with the principal where the prizes were related to the demonstration site program; many of the career and technology classes collaborated with marketing, uniforms, complementary services, and service clubs provided mentoring hours. This type of cross-curricular involvement was present at each of the sites to varying degrees. At another site, one teacher made an observation about how the students involved in the program were excited to go through drug testing. The teacher related that at this particular rural school, only students that participate in some type of extracurricular activity are subject to the drug testing policy. This created an arbitrary division between students receiving special education and those who did not, which was apparent to the students when they were separated into groups at the beginning of each term. However, student participants in the work program were subjected to the same requirements as students in other extracurricular activities, which eliminated this social stigma.

## **Limitations of the Study**

Study participants were selected on the basis that they were enrolled in a participating teacher's class, and therefore not randomly selected or assigned. In addition to the small sample size used in this study, no control group was used. Consequently, there was not a design mechanism to control for history, maturation, or the possible effects of other variables on student outcomes.

While the component elements of the structured work experience programs were the same for each site, variability existed in program implementation and content delivery. In addition, variables such as socio-economic status, ethnicity, and teacher differences were not controlled for in this study, and all of these factors have the potential to affect the results. Generalizability beyond the accessible population should be used with caution.

## **Recommendations for Future Research**

The goal of this study was to investigate the effect of participation in structured work experience programs on the work-readiness skills of students with disabilities. Data was collected to test one primary and three exploratory research questions relating to this goal. The findings, although significant, have substantial limitations. One limitation is that the findings explain only a small proportion of the activities that are affecting any individual student's development of work-readiness skills. Another limitation is the design of the study. The study did not use a control group. By having a one-group design, the researcher could not explain what actual factors caused the significant effects discovered by this study. Given the inadequacies of the study design,

combined with the lack of statistical evidence in explaining a large part of the variance in gain scores, suggestions are made for further research.

The primary research question examined student gains in broad work adjustment after participation in a structured work experience program. It was found that students did experience a statistically significant gain in their pre- to post- broad work adjustment scores. The problem is that the research design and statistical methods used to analyze the data could not provide complete answers to the complex relationships involved in curricular interventions. Future related research should employ a control group and use a variety of data collection methods. Quantitative analysis can identify relationships between structured work experience interventions and student achievement on measures of work-readiness. Qualitative studies can be used to provide rich description to facilitate understanding among the relationships between the variables. Including qualitative methods, such as interviews or case studies, would allow more in-depth exploration about the factors that constitute the relationship.

Future research into this subject should include more detailed program intervention information. This study broadly looked at two program types (i.e., school-based enterprise and service learning) under the broader concept of structured work experience programs. Even though this study of structured work experience programs is more detailed than earlier studies, the problem is that it does not provide the level of detail or sample size necessary to determine why there was a statistically significant difference between service learning and school-based enterprise.

Another avenue of research could be adding a follow-up component with a programmatic intervention study. In this type of study, student gain related to work-readiness could be measured along with post-school employment outcomes. This type of research could be used to examine the impact of structured work experience programs on the employment of people with disabilities.

### **Summary**

The findings of this study investigated the effect of participation in structured work experience programs on the work-readiness skills of high school students with disabilities and examined the interaction effect of number of hours of participation, program type and type of disability on work-readiness skills. Results indicated that (a) there was a statistically significant overall increase pretest to posttest on the measure of work-readiness (i.e., broad work adjustment score) for participants; (b) disability type when controlling for number of participant contact hours was not statistically significant; (c) program type did produce a statistically significant main effect with service learning producing a larger mean gain; and (d) there was not a statistically significant interaction effect between type of disability and program while controlling for number of participant contact hours.

Although previously identified threats to internal validity were addressed, there may still be other explanations as to why the overall effect of participation in structured work experience programs was significant. One-group pre-test posttest designs are not sufficient for making claims of generalization. Future research should be focused on the



effectiveness of work experience interventions and the long-term effects of such interventions on post-school employment.

## REFERENCES

- Alwell, M., & Cobb, B. (2006). A map of the intervention literature in secondary special education transition. *Career Development for Exceptional Individuals, 29*(1), 3-27. doi:10.1177/08857288060290010301
- American Youth Policy Forum., & Center for Workforce Development (Institute for Educational Leadership). (2000). Looking forward: School-to-work principles and strategies for sustainability. Washington, DC: The Forum.
- Bates, P. E., Cuvo, T., Miner, C. A., & Korabek, C. A. (2001). Simulated and community-based instruction involving persons with mild and moderate mental retardation. *Research In Developmental Disabilities, 22*(2), 95-115. doi:10.1016/S0891-4222(01)00060-9
- Becker, R. (2005). *Becker Work Adjustment Profile: 2: User's manual*. Columbus, OH: Elbern Publications.
- Benz, M. R., & Kochhar, C. A. (1996). School-to-work opportunities for all students: A position statement of the Division on Career Development and Transition. *Career Development for Exceptional Individuals, 19*(1), 31-48. doi:10.1177/088572889601900103
- Benz, M. R., Doren, B., & Yovanoff, P. (1998). Crossing the great divide: Predicting productive engagement for young women with disabilities. *Career Development for Exceptional Individuals, 21*(1), 3-16. doi:10.1177/088572889802100102
- Benz, M. R., Lindstrom, L., & Yovanoff, P. (2000). Improving graduation and

- employment outcomes of students with disabilities: Predictive factors and student perspectives. *Exceptional Children*, 66, 509-529.
- Benz, M. R., Yovanoff, P., & Doren, B. (1997). School-to-work components that predict postschool success for students with and without disabilities. *Exceptional Children*, 63(2), 151-164.
- Black, R. S. (1995). Impact of Work Awareness Instruction for Adolescents with Special Needs.
- BLS, 2011, retrieved from <http://www.dol.gov/odep/> retrieved 10/26/11
- Brace, N., Kemp, R., & Snelgar, R. (2006). *SPSS for psychologists: A guide to data analysis using SPSS for Windows (versions 12 and 13)*. Mahwah, NJ: L. Erlbaum Assoc.
- Brooke, V A. (2009). Quality indicators for competitive employment outcomes: What special education teachers need to know in transition planning. *Teaching Exceptional Children*, 41(4), 58-66.
- Brown, K. (2009). Connecting youth and communities: Customized career planning for youth with psychiatric disabilities. *Journal of Social Work. & Social Welfare*, 36, 93.
- Burns, M., Storey, K., & Certo, N. J. (1999). Effect of service learning on attitudes towards students with severe disabilities. *Education and Training in Mental Retardation and Developmental Disabilities*, 34(1), 58-65.
- Carson, E., and, O., & Alameda County School Dept., H. A. (1962). Training the Custodian's Assistant.

- Carter, E. W., Ditchman, N., Sun, Y., Trainor, A. A., Swedeen, B., & Owens, L. (2010). Summer employment and community experiences of transition-age youth with severe disabilities. *Exceptional Children, 76*(2), 194-212.
- Carter, E. W., Trainor, A. A., Ditchman, N., Swedeen, B., & Owens, L. (2011). Community-based summer work experiences of adolescents with high-incidence disabilities. *Journal Of Special Education, 45*(2), 89-103.  
doi:10.1177/0022466909353204
- Carter, E. W., Trainor, A. A., Ditchman, N., Swedeen, B., & Owens, L. (2009). Evaluation of a multicomponent intervention package to increase summer work experiences for transition-age youth with severe disabilities. *Research and Practice For Persons With Severe Disabilities (RPSD), 34*(2), 1-12.
- Casale-Giannola, D. (2011). Inclusion in CTE--What works and what needs fixin'. *Tech Directions, 70*(10), 21-23.
- Cihak, D. F., Alberto, P. A., Kessler, K. B., & Taber, T. A. (2004). An investigation of instructional scheduling arrangements for community based instruction. *Research in Developmental Disabilities, 25*, 67-88.  
doi:10.1016/j.ridd.2003.04.006
- Clement-Heist, K., Siegel, S., & Gaylord-Ross, R. (1992). Simulated and *in situ* vocational social skills training for youths with learning disabilities. *Exceptional Children, 58*, 336-345.
- Colley, D. A., & Jamison, D. (1998). Post school results for youth with disabilities: Key indicators and policy implications. *Career Development for*

- Exceptional Individuals*, 21(2), 145-160. doi:10.1177/088572889802100204
- Corbett, W. P., Clark, H. B., & Blank, W. (2002). Employment and social outcomes associated with vocational programming for youths with emotional or behavior disorders. *Behavioral Disorders*, 27(4), 358-370.
- Cronbach, L. J. (1960). *Essentials of psychological testing*. New York: Harper & Brothers.
- Education for All *Handicapped* Children Act, PL 94-142, 20 U.S.C. § 1400 *et seq.* (1975).
- Estrada-Hernandez, N., Wadsworth, J. S., Nietupski, J. A., Warth, J., & Winslow, A. (2008). Employment or economic success: The experience of individuals with disabilities in transition from school to work. *Journal of Employment Counseling*, 45(1), 14.
- Flexer, R. W., Daviso, A., Baer, R. M., Queen, R., & Meindl, R. S. (2011). An Epidemiological Model of Transition and Postschool Outcomes. *Career Development For Exceptional Individuals*, 34(2), 83-94.  
doi:10.1177/0885728810387922
- Gall, M.D., Gall, J.P., & Borg, W.R. (2003). *Educational research: An introduction*. Boston, MA: Allyn and Bacon.
- Gaylord, V., Johnson, D. R., Lehr, C. A., Bremer, C. D., & Hasazi, S. (2004). Impact: Feature Issue on Achieving Secondary Education and Transition Results for Students with Disabilities, 16 (3). Minneapolis: University of Minnesota, Institute on Community Integration. Overview Challenges of

Secondary Education and Transition Services for Youth with Disabilities by  
David R. Johnson.

- Grigal M., Hart, D., Migliore, A. (2011) Comparing the transition planning, postsecondary education, and employment outcomes of students with intellectual and other disabilities. *Career Development for Exceptional Individuals*, 34(1), 4-17. doi:10.1177/0885728811399091
- Gugerty, J., Foley, C., Frank, A., & Olson, C. (2008). Developing and operating school based enterprises that empower special education students to learn and connect classroom, community and career-related skills. *Journal for Vocational Needs Special Education*, 31(1-3), 19-56.
- Gutcher, G. D., & Texas A & M Research Foundation, College Station. (1976). A Study of Structured and Non-Structured Work Experience Programs in Texas. Final Report.
- Guy, B. A., Sitlington, P. L., Larsen, M. D. & Frank, A. R. (2009). What are high schools offering as preparation for employment? *Career Development for Exceptional Individuals*, 32, 30-41.
- Halpern, A. S. (1992). Transition: Old wine in new bottles. *Exceptional Children*, 58(3), 202-211.
- Hamilton, M., & Hamilton, S. (1997). Learning well at work: Choices for quality. New York, NY: Cornell University Press.
- Hartman, M. A. (2009). Step by Step: Creating a Community-Based Transition Program for Students with Intellectual Disabilities. *TEACHING Exceptional*

*Children, 41(6), 6-11.*

Hasazi, S. B., Gordon, L. R., & Roe, C. A. (1985). Factors associated with the employment status of handicapped youth exiting high school from 1979 to 1983. *Exceptional Children*.

Heller, K. W., Allgood, M. H., Ware, S. P., & Castelle, M. D. (1996). Use of dual communication boards at vocational sites by students who are deaf-blind. *Review, 27, 180-191.*

Hoover, W. (1996, August). The practice implications of Constructivism. *SEDL Letter, IX(3)*. Retrieved from <http://www.sedl.org/pubs/sedletter/v09n03/practice.html>

Hoyle, R. H., Harris, M. J., & Judd, C. M. (2002). *Research methods in social relations*. Ft. Worth, TX: Wadsworth.

Hoyt, K. B.(1987). Perceptions of Career Education Supporters Concerning the Current Nature and Status of the Career Education Movement." *Journal of Career Development, 13, (3), 5-15*. doi:10.1007/BF01351854

Hoyt, K. B. "Trends in Career Education: Implications for the Future." In CAREER EDUCATION IN TRANSITION: TRENDS AND IMPLICATIONS FOR THE FUTURE. INFORMATION SERIES NO. 323, by K. B. Hoyt and K. R. Shylo. Columbus: ERIC Clearinghouse on Adult, Career, and Vocational Education, The National Center for Research in Vocational Education, The Ohio State University, 1987b. (ERIC Document Reproduction Service No. ED 290 933).

- Hoyt, K. B. (1994). Youth apprenticeship “American style” and career development. *The Career Development Quarterly*, 42(3), 216-223.  
doi:10.1002/j.2161-0045.1994.tb00936.x
- Hughes, C. & Avoke, S. (2010). The elephant in the room: Poverty, disability, and employment. *Research & Practice for Persons with Severe Disabilities*, 35(1-2), 5-14.
- Individuals with Disabilities Education Act, PL 94-142, 20 U.S.C. § 1400 *et seq.* (1990).
- Individuals with Disabilities Education Improvement Act, PL 94-142, 20 U.S.C. § 1400 *et seq.* (2004).
- Interpreting Correlation, Reliability, and Validity Coefficients: A Mix of Theory and Standards.  
[http://www.pdfdownload.org/pdf2html/view\\_online.php?url=http%3A%2F%2Fpages.intnet.mu%2Fcueboy%2Feducation%2Fnotes%2Fstatistics%2Finterpretation.pdf](http://www.pdfdownload.org/pdf2html/view_online.php?url=http%3A%2F%2Fpages.intnet.mu%2Fcueboy%2Feducation%2Fnotes%2Fstatistics%2Finterpretation.pdf)
- Ju, S., Zhang, D., & Pacha, J. (2012). Employability Skills Valued by Employers as Important for Entry-Level Employees with and without Disabilities. *Career Development For Exceptional Individuals*, 35(1), 29-38.
- Jung, S. M., & American Institutes for Research in the Behavioral Sciences, Palo Alto, CA. (1980). Implementation of the Career Education Incentive Act. First Interim Report on the Evaluability Assessment.
- Katsiyannis A., Zhang, D., Woodruff, N., & Dixon, A. (2005). Transition supports



to students with mental retardation: An examination of data from the National Longitudinal Transition Study 2. *Education and Training in Developmental Disabilities*, 40, 109-116.

Kearsley, 2011 Theory into practice database

Kohler, P. D., & Chapman, S. (1999). Literature review on school-to-work transition. Retrieved November 12, 2012 from [http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDMQFjAA&url=http%3A%2F%2Fhomepages.wmich.edu%2F~kohlerp%2Fpdf%2FLit%2520Review%2520on%2520STW%2520Tra%2523CE5B2.pdf&ei=eIChUKr8CcSf2QXquIDQAw&usg=AFQjCNHRwOLTqiV8ErvNzf\\_YtOCDvdFVTA&sig2=14BSUatQrkQIUO2uD3KBYQ](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDMQFjAA&url=http%3A%2F%2Fhomepages.wmich.edu%2F~kohlerp%2Fpdf%2FLit%2520Review%2520on%2520STW%2520Tra%2523CE5B2.pdf&ei=eIChUKr8CcSf2QXquIDQAw&usg=AFQjCNHRwOLTqiV8ErvNzf_YtOCDvdFVTA&sig2=14BSUatQrkQIUO2uD3KBYQ)

Kohler, P. D., & Field, S. S. (2003). Transition-Focused Education: Foundation for the Future. *Journal Of Special Education*, 37(3), 174-183.  
doi:10.1177/00224669030370030701

Kohler, P. D., & Illinois Univ., C. t. (1996). Taxonomy for Transition Programming: Linking Research and Practice.

Krumboltz, J. D. & Worthington, R. L. (1999, June). The school-to-work transition from a learning theory perspective. *The Career Development Quarterly*. 47, 312-325. doi:10.1002/j.2161-0045.1999.tb00740.x

Landmark, L.J. (2010). Compliance and Best Practices in Transition Planning: Effects of Disability and Ethnicity. Available electronically from <http://hdl.handle.net/1969.1/ETD-TAMU-2009-12-7436>.

- Lindstrom, L., Doren, B., & Miesch, J. (2011). Waging a Living: Career Development and Long-Term Employment Outcomes for Young Adults with Disabilities. *Exceptional Children, 77*(4), 423-434.
- Luecking, R. G. (2009). *The Way to Work: How to Facilitate Work Experiences for Youth in Transition*. Baltimore, MD: Brookes Publishing Company.
- Luecking, R., & Fabian, E. (2000). Paid internships and employment success for youth in transition. *Career Development for Exceptional Individuals, 23*(2), 205-221. doi:10.1177/088572880002300207
- Luecking, R., & Gramlich, M. (2003). Quality work-based learning and postschool employment success. *National Center on Secondary Education and Transition (NCSET), Issue Brief, 2*(2). Retrieved from <http://www.ncset.org/publications/viewdesc.asp?id=1192>
- Mechling, L. C., & Ortega-Hurndon, F. (2007). Computer-based video instruction to teach young adults with moderate intellectual disabilities to perform multiple step, job tasks in a generalized setting. *Education and Training in Developmental Disabilities, 42*, 24-37.
- Merriam, S. B., & Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Mitchell, R. J., Schuster, J. W., Collins, B. C., & Gassaway, L. J. (2000). Teaching vocational skills with a faded auditory prompting system. *Education and Training in Mental Retardation, 35*, 415-427.
- National Longitudinal Transition Study 2. (2003). NLTS2 data tables. Retrieved

from <http://www.nlts2.org>.

Newman, L., Wagner, M., Cameto, R., & Knokey, A. (2009). *The post-high school outcomes of youth with disabilities up to 4 years after high school. A report of findings from the National Longitudinal Transition Study-2 (NLTS2)*.

Menlo Park, CA: SRI International. Retrieved from

[http://www.nlts2.org/reports/2009\\_04/nlts2\\_report\\_2009\\_04\\_complete.pdf](http://www.nlts2.org/reports/2009_04/nlts2_report_2009_04_complete.pdf)

Nietupski, J., Warth, J., Winslow, A., Johnson, R., Douglas, B., Johnson, M., &

Cilek, J. (2006). Iowa's High School Super Senior School-to-Work

Transition Program. *Journal For Vocational Special Needs*

O'Reilly, C., & Chatman, J. (1994). Working smarter and harder: A longitudinal

study of managerial success. *Administrative Science Quarterly*, 39, 603-627.

Overtoom, C. (2000). Employability skills: An update. ERIC digest, 220(2).

Parker, P. (2008). Promoting employability in a "flat" world. *Journal of*

*Employment Counseling*, 45, 2-13. doi:10.1002/j.2161-1920.2008.tb00039.x

Phelps, L. A., & Hanley-Maxwell, C. (1997). School-to-work transitions for youth

with disabilities: A review of outcomes and practices. *Review of*

*Educational Research: Official Publication of the American Educational*

*Research Association*, 67(2), 197-226. doi:10.3102/00346543067002197

Riffel, L. A., Wehmeyer, M. L., Turnbull, A. P., Lattimore, J., Davies, D., Stock, &

Fisher, S. (2005). Promoting independent performance of transition-related

tasks using a Palmtop PC-based self-directed visual and auditory prompting

system. *Journal of Special Education Technology*, 20(2), 5-14.

- Roessler, R. T., & Foshee, K. (1996). Impact of Occupational Instruction on the Performance and Vocational Identity of Special Education Students. *Rural Special Education Quarterly*, 15(1), 35-43.
- Rogers, C., Lavin, D., Tran, T., Gantenbein, T., & Sharpe, M. (2008). Customized Employment: Changing what it means to be qualified in the workforce for transition-aged youth and young adults. *Journal of Vocational Rehabilitation*, 28(3), 191-207.
- Rojewski, J. (2002). Career assessment for adolescents with mild disabilities: Critical concerns for transition planning. *Career Development for Exceptional Individual.* 25(1), 73-95. doi:10.1177/088572880202500106
- Ruhm, C. J., & National Bureau of Economic Research. (1997). *Is high school employment consumption or investment?* Cambridge, MA: National Bureau of Economic Research. doi:10.1086/209844
- Rutkowski, S., Daston, M., Van Kuiken, D., & Riehle, E. (2006). Project SEARCH: A demand-side model of high school transition. *Journal of Vocational Rehabilitation*, 25(2), 85-96.
- Ryder, M. (2006). Social Constructivism. In D. M. Borchert (Ed.), *Encyclopedia of philosophy* (2<sup>nd</sup> ed.). Retrieved from <http://www.lambsound.com/Downloads/philosophy/Volume%2009.pdf>
- Sabbatino, E. D., & Macrine, S. L. (2007). Start on Success: A Model Transition Program for High School Students with Disabilities. *Preventing School Failure*, 52(1), 33-39 doi:10.3200/PSFL.52.1.33-40

- Sanford, C., Newman, L., Wagner, M., Cameto, R., Knokey, A., Shaver, D., & National Center for Special Education Research. (2011). The Post-High School Outcomes of Young Adults with Disabilities up to 6 Years after High School: Key Findings from the National Longitudinal Transition Study-2 (NLTS2). NCSER 2011-3004. National Center For Special Education Research.
- School to Work Opportunities Act of 1994, PL 103-239, 20 U.S.C. § 69 et seq. (1994-2001).
- SRI International. (2007). *National Longitudinal Transition Study*. Retrieved from <http://policyweb.sri.com/cehs/projects/displayProject.jsp?Nick=nlts>
- Stern, D., Rahn, M. L., & Chung, Y. P. (1998). Design of work-based learning for students in the United States. *Youth & Society, 29*(4), 471-502. doi:10.1177/0044118X98029004004
- Stern, D., Stone, J. R., Hopkins, C., & McMillion, M. (1990). Quality of students' work experience and orientation toward work. *Youth & Society, 22*(2), 263-282. doi: 10.1177/0044118X90022002008
- Test, D. W., Fowler, C. H., Richter, S. M., White, J., Mazzotti, V., Walker, A. R., ... & Kortering, L. (2009). Evidence-based practices in secondary transition. *Career Development for Exceptional Individuals, 32*(2), 115-128. doi: 10.1177/0885728809336859
- Texas Education Agency, 2011 <http://www.tea.state.tx.us/index4.aspx?id=5011> retrieved 10/25/11

- Trainor, A. A., Carter, E. W., Owens, L. A., & Swedeen, B. (2008). Special Educators' Perceptions of Summer Employment and Community Participation Opportunities for Youth with Disabilities. *Career Development For Exceptional Individuals*, 31(3), 144-153.  
doi:10.1177/0885728808323717
- Trochim, W. M. (2006). *The Research Methods Knowledge Base*, 2nd Edition. Retrieved from <http://www.socialresearchmethods.net/kb/external.php>
- United States Department of Education, Office of Special Education and Rehabilitative Services. [ca. 2000]. *Archived: A 25 year history of the IDEA*. Retrieved from <http://www.2.ed.gov/policy/speced/leg/idea/history.html>
- United States. (1993). *Teaching the SCANS competencies*. Washington, D.C: U.S. Dept. of Labor, Secretary's Commission on Achieving Necessary Skills.
- Wagner 2005 [http://nlts2.org/reports/2005\\_06/nlts2\\_report\\_2005\\_06\\_ch6.pdf](http://nlts2.org/reports/2005_06/nlts2_report_2005_06_ch6.pdf)
- Wagner, M., & Cox, R. (1991). *Parents' Reports of Students' Involvement with Vocational Rehabilitation Agencies in the First Years after Secondary School. A Report from the National Longitudinal Transition Study of Special Education Students*.
- Wagner, M., Cameto, R., & Newman, L. (2003). *Youth with disabilities: A changing population. A report of findings from the National Longitudinal Transition Study (NLTS) and the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

- Wagner, M., Friend, M., Bursuck, W. D., Kutash, K., Duchnowski, A. J., Sumi, W., & Epstein, M. H. (2006). Educating students with emotional disturbances: A national perspective on school programs and services. *Journal Of Emotional And Behavioral Disorders, 14*(1), 12-30.  
doi:10.1177/10634266060140010201
- Walsh, M. P. (2010). Employers' perceptions of transition programming for students with emotional disturbances. *Journal Of Employment Counseling, 47*(3), 123-133. doi:10.1002/j.2161-1920.2010.tb00097.x
- Wehman, P. (2006). Life beyond the classroom: Transition strategies for young people with disabilities. Baltimore, MD: Brookes Publishing Company.
- Wiles, J., & Bondi, J. (1979). *Curriculum development: A guide to practice*. Columbus: C. E. Merrill Pub. Co.
- Will, M. (1984). *Bridges from school to working life: Programs for the handicapped*. Washington, DC: The Office of Special Education and Rehabilitative Services, Office of Information and Resources for the Handicapped.
- Zhang, D., Katsiyannis, A., & Zhang, J. (2002). Teacher and parent practice on fostering self-determination of high school students with mild disabilities. *Career Development for Exceptional Individuals, 25*(2), 157-169.
- Zunker, V. (1994). *Career counseling: Applied concepts of life planning*. Pacific Grove, CA: Brooks/Cole.

APPENDIX A  
DEMONSTRATION SITE APPLICATION





## **The Brazos Valley Employment Project is Seeking Two Secondary Schools as Model Demonstration Sites.**

**Intent:** The Brazos Valley Employment Project (BVEP) will provide training, technical assistance and support funds to two high schools during the 2007-08 school year to create or enhance work-based learning experiences for secondary students with disabilities. These schools will serve as models to other schools interested in creating similar programs.

**Structure and Funding:** The BVEP is administered by Texas A & M University with funding through the Texas Council for Developmental Disabilities (TCDD) and guidance from a locally developed Project Advisory Committee (PAC). Interested secondary public schools in Brazos, Burleson, Grimes, Leon, Madison, Robertson and Washington counties are encouraged to complete the attached Demonstration Site Consideration Form and submit it by ~~FRIDAY, OCTOBER 26, 2007~~ **EXTENDED**. Four sites (2 primary and 2 alternates) will be selected. Primary sites will be notified in the form of a written project demonstration site plan. This written negotiable plan will outline the global expectations of the selected sites and the anticipated funding/services to be provided by the BVEP. The Demonstration sites will be asked to commit to this plan at all levels (e.g. Teacher, Principal, Special Education Director (district) and Transition Specialist, if applicable). If an agreement cannot be achieved between the BVEP and a selected site, the opportunity will be offered to an alternate site.

**Potential BVEP Support:** Specific supports will be negotiated with each site; however, general supports may include printed materials, assistance in building a local transition team, substitute teacher pay, funds for transporting students, assessment and instructional materials, on-site technical assistance, group trainings, etc.

**Potential Demonstration Site Commitment:** Allow selected teachers and students to participate in BVEP trainings and activities, provide BVEP staff with current school calendar to avoid scheduling conflicts, and achieve project goals within this school year.

**Questions?** Contact Jackie Pacha, Technical Assistance Specialist, at 979-862-8340 or [jpacha@tamu.edu](mailto:jpacha@tamu.edu)

**Hurry, the consideration form is due by ~~FRIDAY, OCTOBER 26, 2007~~ EXTENDED!**

(979)862-8340 phone

College of Education and Human Development  
Department of Educational Psychology  
704 Harrington Tower  
4225 TAMU  
College Station, TX 77843-4225

(979)862-1256 fax

  
**BRAZOS VALLEY**  
**EMPLOYMENT PROJECT**

**Demonstration Site Consideration Form – Due by ~~FRIDAY, OCTOBER 26, 2007~~**  
**EXTENDED**

School Name:	County/District/Campus Number:	Principal Name:
Campus Address:	Campus Phone:	Web Address:
Primary Contact Name & Position:	Phone:	Email:
	How many students do you project will be participating?	
INVOLVED STAFF (Add additional pages if needed)		
Name	Position (Teacher, Transition Specialist, Job Coach, Teacher's Aide, etc.)	Teaching Assignment (e.g. VAC, CBVE, Life Skills, Resource, Inclusion, etc.)

Using additional pages as necessary, please respond as specifically as possible using people first language to the following prompts:

1. Describe your **current** program(s), services and supports as they relate to helping students with disabilities achieve employment;
2. Describe your **dream** program(s), services and supports as they relate to helping students with disabilities achieve employment; and
3. Describe what steps, supports, services are needed to help you move toward your **dream** program(s).

(979)862-8340 phone

College of Education and Human Development  
 Department of Educational Psychology  
 704 Harrington Tower  
 4225 TAMU  
 College Station, TX 77843-4225

(979)862-1256 fax

Page 1 of 2

  
**BRAZOS VALLEY  
EMPLOYMENT PROJECT**

**SIGNATURES**

---

Applicant	Date
-----------	------

---

Principal	Date
-----------	------

---

Special Education Administrator	Date
---------------------------------	------

---

**NOTES**

- For assistance in completing this form or for questions, contact Jackie Pacha, Technical Assistance Specialist, at 979-862-8340 or [jpacha@tamu.edu](mailto:jpacha@tamu.edu)
- Demonstration Site Consideration Form is due by ~~FRIDAY, OCTOBER 26, 2007~~ EXTENDED by mail, fax or email to:

Jackie Pacha  
BVEP Technical Assistance Specialist  
704 Harrington Tower  
4225 TAMU  
College Station, TX 77843-4225

979-862-1256 (fax) or email: [jpacha@tamu.edu](mailto:jpacha@tamu.edu)

(979)862-8340 phone

College of Education and Human Development  
Department of Educational Psychology  
704 Harrington Tower  
4225 TAMU  
College Station, TX 77843-4225

(979)862-1256 fax

Page 2 of 2

**APPENDIX B**

**DEMONSTRATION SITE INTERVIEW AND OVERVIEW**



**BRAZOS VALLEY  
EMPLOYMENT PROJECT**

**Demonstration Site Consideration – Phone Interview**

Date:	Interviewer:	Interviewee:	Clarification(s) from submitted Site Consideration Form:
<b>Staff Information</b>	What, if any, related memberships exist for involved staff members (e.g., CEC, DCDT, TAVAC, ESC Transition List-serv, etc.)?		
	Do any involved staff members serve on related committees (e.g., Mayor’s Committee, Rotary/Lyons, non-profits, advocacy groups, etc.)?		
	What related trainings/conferences have staff members attended within the past 2 years (e.g., DCDT, ESC trainings/discussions, job coaching, supported employment, TAVAC, etc.)?		
<b>Process</b>	What is the transition planning process on your campus?		
	Who is responsible for ensuring the transition plans are implemented and updated?		
<b>Partnerships</b>	Does your existing work based learning program have any community partnerships already in place (e.g., non-profit agencies, government agencies, parents, employers, etc.)? If so, who are the partnerships with and what does the partnership look like?		
<b>Student Involvement</b>	List all the ways that the student is involved in the transition process on your campus?		
	How many students with disabilities have been involved in work based learning on your campus within the past 2 years? About how many of those were involved in paid employment? How were those jobs selected?		

## Brazos Valley Employment Project

### Community Service and Service-Learning

Community service and service-learning projects can provide students with disabilities opportunities for developing employment skills. Community service includes volunteerism, but only at organizations that are not in business for profit. Similarly, service-learning merges community service with curriculum-based learning.

Service-learning is reciprocal: the students and the community benefit from service-learning. Service-learning activities are most effective when they occur regularly over a long period of time. There are three types of service-learning activities:

- **Direct service:** personal, face-to-face contact with the service recipients; e.g., tutoring, serving food at a homeless shelter.
- **Indirect service:** no direct contact with service recipients—the community indirectly benefits; e.g., food drives.
- **Advocacy:** allows students to educate and work with the community on a particular issue; e.g., writing letters to legislators, planting and maintaining a community garden.

#### Pros

- Increases academic achievement
- Develops citizenship and civic responsibility

- Promotes personal, social, and career development
  - Does not require a set of prerequisite skills
- #### Cons
- Requires financial resources for transportation, staff development, community outreach, and staff salaries
  - Implementing service-learning activities can be difficult when schools utilize traditional, 50 minute class scheduling

### Customized Employment

Customized employment individualizes the relationship between job seekers and employers. It utilizes a negotiation process to shape the job to meet the needs of the employer and the employee. Types of customized employment include:

- **Job carving:** the process of task analyzing a job and then reassigning the components of the job in a more efficient or understandable way, resulting in job restructuring or job creation.
- **Job development:** the creation of a new job that is negotiated based on the employer's needs and the employee's interests and skills.
- **Job restructuring:** the reassignment of nonessential tasks that do not match the employee's abilities.

#### Pros

- Benefits employers by promoting business efficiency

- Focuses on the job seeker's needs, skills, talents, and potential contributions to the workplace

#### Cons

- Appropriate for students who require more intensive supports
- Care must be taken to not devalue the employee by creating work that is deemed undesirable

### School-Based Enterprise

School-based enterprises are real work environments on a school campus that allow students to operate small businesses. School-based businesses may include manufacturing products (e.g., stationary, woodcraft items) or delivering a service to a customer (e.g., laundry service, silk-screening).

#### Pros

- Helps schools develop relationships with the community
- Develops the social and behavioral aspects of working
- Allows students to experience career exploration and preparation

#### Cons

- Teachers may have only limited business experience
- Schools may have a lack of space or funding available for establishing a school-based enterprise

### Youth Apprenticeships

Youth apprenticeships are similar to traditional apprenticeships except that youth apprenticeships are directed toward high school students. Students participating in youth apprenticeships usually receive paid wages. Youth apprenticeship programs usually consist of two years of high school preparation and two more years of postsecondary education, thus linking the curriculum to work.

#### Pros

- Allows students to learn a specialized trade during high school

#### Cons

- Limited to certain industries with a limited number of positions



### Supported Employment

Supported employment facilitates competitive work in integrated work settings for students who have the most severe disabilities and who need ongoing support in order to perform their jobs. Supported employment utilizes person-centered planning, natural supports, job coaches, job training, assistive technology, supervision, and transportation.

#### Pros

- ◆ Is an alternative to sheltered work-shops
- ◆ Utilizes natural supports
- ◆ Job coaches are available for training and retraining

#### Cons

- ◆ May be segregated employment experiences (e.g., mobile work crew)



Jackie Pacha,  
Technical Assistance Specialist  
979.862.8340 / jpacha@tamu.edu

Financial Support for the Brazos Valley Employment Project is provided by the Texas Council for Developmental Disabilities, with Federal funds\* made available by the United States Department of Health and Human Services, Administration on Developmental Disabilities.  
\*\$375,000 (73.2%) DD funds;  
\$137,1000 (26.8%) non-federal resources

### Providing Work Experiences to Students with Disabilities

Students with disabilities who receive work experience before exiting high school are more likely to be employed post-school.

This informational brochure details different models of providing real work experiences to students with disabilities.



#### Career and Technical Education

Career and Technical Education (CTE) is an inclusive general education program that provides students with instruction in vocational skills, vocational assessment, career counseling and planning, and employability skills training. CTE sometimes includes an apprenticeship or internship.

#### Pros

- ◆ Students are more likely to remain in school and receive a diploma
- ◆ Encourages postsecondary education
- ◆ Students in CTE often have better postsecondary outcomes than students who only focused on either academic or vocational courses

#### Cons

- ◆ CTE programs are specialized and may pigeonhole students into one career choice

### Community Based Training Works!

#### Work-Based Learning

Work-Based Learning (WBL), formerly known as Community Based Vocational Instruction, delivers education and training in real community work settings. WBL consists of four components:

- ◆ Career exploration: allows students to investigate their interests, values, beliefs, strengths, and weaknesses by observing work environments (~5 hrs. / job)
- ◆ Career assessment: allows educators and students to assess students in real work environments; students rotate among work settings (~90 hrs. / job)
- ◆ Work related training: students receive closely supervised training based on a written training plan (~120 hrs. / job)
- ◆ Cooperative work experience: the school and business reach a written agreement to provide the student with paid work experience

#### Pros

- ◆ Designed for students with disabilities for which employment is not immediately obtainable
- ◆ Helps students and educators identify student interests and skills
- ◆ Allows students to learn about the work environment and relationships among employees

#### Cons

- ◆ May increase the amount of time that students are receiving special education services during the week
- ◆ Educators need to be knowledgeable about the Fair Labor Standards Act
- ◆ Several different work sites are necessary in order to allow the students to rotate among the sites

#### Cooperative Education

Cooperative education is a program that allows students to attend academic and vocational classes for a portion of the day and receive high school credit for working in a paid position for the remainder of the day. Cooperative education programs are sometimes designated for students who are on a vocational track, but other programs allow any students to enroll.

#### Pros

- ◆ Formal partnerships among schools, students, and businesses are developed and fostered
- ◆ Students receive paid work experience

#### Cons

- ◆ Entrance requirements could potentially exclude some students who have disabilities from participating
- ◆ Students who receive high school credit for working have been shown to have lower academic achievement than students who work without receiving high school credit

APPENDIX C

EXAMPLE MEMORANDUM OF UNDERSTANDING



**Memorandum of Understanding (MOU) Between the Brazos Valley Employment Project at Texas A&M University and [REDACTED] High School**

The Brazos Valley Employment Project (BVEP) at Texas A&M University, located at 704 Harrington Tower, 4225 TAMU, College Station, TX 77843 and [REDACTED] agree to work cooperatively for the 2007-08 school year.

BVEP agrees to the following:

1. To provide technical assistance in the development of work-based learning experiences for students with disabilities;
2. To provide reimbursement to [REDACTED] for substitute teachers to allow [REDACTED] staff to attend BVEP approved activities;
3. To provide reimbursement to [REDACTED] for transportation of [REDACTED] students participating in BVEP approved activities; and
4. To assist [REDACTED] in locating and obtaining resource materials and training related to the development and implementation of work-based learning experiences for students with disabilities.

[REDACTED] agrees to the following:

1. To participate in planning, developing, implementing and managing work-based learning experiences for students with disabilities;
2. To allow selected [REDACTED] staff to attend BVEP approved training when feasible; and
3. Utilize BVEP provided resources for intended purposes.

Both organizations agree to the following:

1. Modifications to this MOU will be made by mutual agreement and in writing.
2. Either organization may terminate this agreement without cause in writing.
3. This MOU does not govern purchasing or reimbursement policies and procedures. Fiscal aspects of this working relationship are handled under separate document(s).

By signing this MOU the organizations acknowledge they will actively abide by its terms.

**FOR THE BRAZOS VALLEY EMPLOYMENT PROJECT AT TEXAS A&M UNIVERSITY**

**FOR [REDACTED] HIGH SCHOOL**

\_\_\_\_\_  
Principal Investigator      Date

\_\_\_\_\_  
Project coordinator                      Date

\_\_\_\_\_  
Project Director                      Date

\_\_\_\_\_  
Principal                                      Date

\_\_\_\_\_  
Director or Superintendent              Date

APPENDIX D  
EXAMPLE WORKPLANS

<b>Purpose:</b> To create _____ for secondary students with disabilities.		
<b>Focus Areas:</b>		
<ol style="list-style-type: none"> <li>1. Development of relationships between secondary schools and community employers;</li> <li>2.</li> </ol>		
<b>Objective 1: Develop an Active Local Transition Team (LTT). [Focus Area(s): 1]</b> The LTT will be composed of transition stakeholders such as employers, school personnel, public and private agency personnel, etc. The LTT will be used as a mechanism to identify resources and develop written plans for contacting community employers to build school-employer partnerships. LTT meetings should be beneficial to all involved, and should last less than one hour each.		
<b>Activities (tasks necessary to achieve the goal)</b>	<b>Completion Date</b>	<b>Person Responsible</b>
A. Establish chair of the LTT <i>The leader of the LTT should be someone who can set the agenda for the LTT meetings and keep everyone focused during the meetings.</i>		
B. Provide technical assistance to chair of LTT regarding the establishment and functions of the LTT		
C. Identify and contact potential members to serve on LTT		
D. Schedule LTT's first meeting and determine how often LTT will meet		
E. The LTT identifies resources and develops a plan for contacting community employers based on local labor market needs.		

<b>Objective 2: Develop _____ Program. [Focus Area(s): ]</b>		
The development of this program should be		
<b>Activities (tasks necessary to achieve the goal)</b>	<b>Completion Date</b>	<b>Person Responsible</b>
A.		
B.		
C.		
D.		
E.		
F.		

<b>Purpose:</b> To create work-based learning and employment opportunities through service-learning for secondary students with disabilities		
<b>Focus Areas:</b>		
<ol style="list-style-type: none"> <li>1. Development of relationships between secondary schools and community employers;</li> <li>2. Enhancement of student employability skills; and</li> <li>3. Promotion of self-determination, job attainment, satisfaction and retention.</li> </ol>		
<b>Objective 1: Develop an Active Local Transition Team (LTT).</b> [Focus Area(s): 1] The LTT will be composed of transition stakeholders such as employers, school personnel, public and private agency personnel, etc. The LTT will be used as a mechanism to identify resources and develop written plans for contacting community employers to build school-employer partnerships. LTT meetings should be beneficial to all involved, and should last less than one hour each.		
<b>Activities (tasks necessary to achieve the goal)</b>	<b>Completion Date</b>	<b>Person Responsible</b>
A. Establish chair of the LTT <i>The leader of the LTT should be someone who can set the agenda for the LTT meetings and keep everyone focused during the meetings.</i>	4-3-08	[Redacted]
B. Provide technical assistance to chair of LTT regarding the establishment and functions of the LTT	On-going	[Redacted]
C. Identify and contact potential members to serve on LTT	4-16-08	LTT Chair
D. Schedule LTT's first meeting and determine how often LTT will meet	4-11-08	LTT Chair
E. The LTT identifies resources and develops a plan for contacting community employers based on local labor market needs.	5-08-08	LTT Chair

<b>Objective 2: Implement Work Experience Program. [Focus Area(s): 1,2,3]</b> Through the development and implementation of a service learning program, students will enhance various employability skills while meeting an identified need within the community and attaining educational goals.		
Activities (tasks necessary to achieve the goal)	Completion Date	Person Responsible
A. Review service-learning materials provided by BVEP.	3-31-08	[REDACTED]
B. Identify course(s) in which the service-learning project will be implemented, students, and the number of hours per week students will work on the service-learning project.	3-31-08	[REDACTED]
C. Identify learning goals/objectives for course that will be met through the service-learning project.	3-31-08	[REDACTED]
D. Identify the community need(s) that will be met through the service-learning project.	3-31-08	[REDACTED]
E. Identify type of service-learning project: indirect, direct, or advocacy.	3-31-08	[REDACTED]
F. Develop a plan for student reflection and a plan to evaluate the effectiveness of the service-learning project.	3-31-08	[REDACTED]
G. Identify materials needed to implement the service-learning project. <i>If needed, a consultant can be obtained.</i>	3-31-08	[REDACTED]
H. Purchase materials and supplies necessary for project.	On-going	[REDACTED]
I. Implement and monitor project for needed adjustments	On-going	[REDACTED]

 High School  
 Page 2 of 2

**Purpose:** To create work-based learning and employment opportunities through a school-based enterprise for secondary students with disabilities.

**Focus Areas:**

1. Development of relationships between secondary schools and community employers;
2. Enhancement of student employability skills and experience.

**Objective 1: Develop and Active Local Transition Team (LTT). [Focus Area(s): 1]**

The LTT will be composed of transition stakeholders such as employers, school personnel, public and private agency personnel, etc. The LTT will be used as a mechanism to identify resources and develop written plans for contacting community employers to build school-employer partnerships. LTT meetings should be beneficial to all involved, and should last less than one hour each.

**Activities (tasks necessary to achieve the goal)**

- A. Establish chair of the LTT [ (11-13-08) ██████████ ]  
The leader of the LTT should be someone who can set the agenda for the LTT meetings and keep everyone focused during the meetings.
- B. Provide technical assistance to chair of LTT regarding the establishment and functions of the LTT. [ (on-going) ██████████ ]
- C. Identify and contact potential members to serve on LTT. [ (11-5-08) LTT Chair]
- D. Schedule LTT's first meeting and determine how often LTT will meet. [(11-17-08) LTT Chair]
- E. The LTT identifies resources and develops a plan for contacting community employers based on local labor market needs. [(12-3-08) LTT Chair]

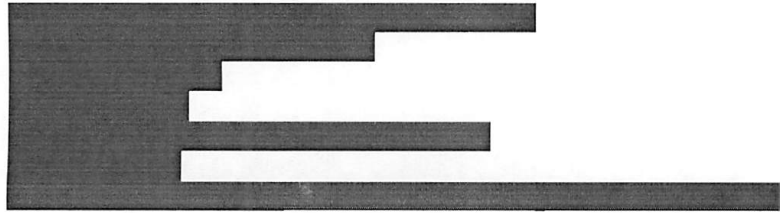
**Objective 2: Develop a School-Based Enterprise Program. [Focus Area(s):1, 2, 3]**

Through the development and implementation of a school based enterprise program, students will enhance various employability skills while meeting an identified need within the district and community while attaining educational goals.

- A. Review school-based enterprise materials provided by BVEP. [(10-10-08) ██████████]
- B. Identify course(s) in which the school-based enterprise project will be implemented, students, and number of hours per week students will work on the school-based enterprise project. [(10-30-08) ██████████]
- C. Identify learning goals/objectives for course that will be met through the school-based enterprise. [(10-30-08) ██████████]
- D. Identify the school district need(s)/community needs that will be met through the school-based enterprise. [(10-30-08) ██████████ High School Staff and Students]
- E. Identify materials needed to implement the school-based enterprise. [(11-3-08) ██████████]
- F. Purchase materials and supplies necessary for the project. [(on-going) ██████████]
- G. Implement and monitor project for needed adjustments. [(on-going) ██████████]



APPENDIX E  
EXAMPLE BUSINESS PLAN



**Section I Table of Contents**

**Section II Executive Summary**

A-Plus Coffee is a school based student run business selling coffee, hot tea cappuccino, and hot chocolate. Our goals are two fold. First we hope to offer quality coffee to the faculty and staff of Bryan High School. We will be selling coffee products purchased through a local coffee service Twin City Coffee Service and have worked closely with their representative in designing our scope of products. We have chosen to sell their products in two sizes. We have three methods of distribution. First is a stationary coffee shop on Blue Campus, which will house all equipment and be the base of operations for the second two methods. Second we will have a coffee cart serving the staff on Silver Campus. It will offer the same goods but will have to return to the base shop for stock refills. And third through our market research we found that many teachers, staff and administration would take advantage of a coffee delivery service.

Our financial requirements will be met through a grant received through the Brazos Valley Employment Project. Which is a research project run through Texas A&M linking student achievement to involvement in a vocational program. The idea is that through participation in a vocational program we will see measurable gains in academic and behavioral goals. We will receive all product equipment from [REDACTED]. As we will be purchasing the products from [REDACTED] we will be renting their equipment at no cost. They will be responsible for all equipment maintenance and will deliver the products to the Blue Campus site. Other equipment such as the coffee cart for the Silver Campus satellite, the water (which will be delivered from Culligan), cash registers and janitorial equipment will be purchased through the grant money received from the Brazos Valley Employment Project. This is all seed money; we plan that the business will be self-sufficient in the future.

The second objective for our school-based enterprise is to teach our students entrepreneurship and business/vocational skills. We work exclusively with students who have special needs and challenges. Our students all carry an ED (emotional disturbed) label and have traditionally not met with success in an academic setting, generally because of emotional and/or behavioral challenges. Through this program we hope to show that being involved in and eventually responsible for a small business of their own will increase their confidence in social

settings, teach them skills making them more employable, reduce counterproductive behavioral habits and increase their success the academic setting. The students have been involved in each step of the planning and have fully been in charge of the marketing. As the business evolves the students will take on more of the responsibility for the implementation of the business arriving at a point when the business is almost fully student run.

### **Section III Description of the Industry, Business Product and Service**

Coffee consumption in the US continues to grow; with consumers becoming more educated about different coffee varieties and demanding quality. The market has wrestled with increasing fuel prices as well as raw material prices. With consumers increasingly affected by the credit crunch, and rising prices in foodservice, 2008 will witness a true test of coffee's elasticity and consumers' willingness to spend as much on premium coffee. 2007 saw Starbucks revising company growth, Dunkin' Donuts entering the retail coffee market and McDonalds strengthening its focus on coffee, introducing coffee baristas and new premium coffee varieties. (US Coffee Market Overview 2008 A Datamonitor report, 2008)

Specialty coffee sales are increasing by 20% per year and account for nearly 8% of the 18 billion dollar U.S. coffee market. Coffee statistics show that among coffee drinkers the average consumption in the United States is 3.1 cups of coffee per day. COFFEE STATISTICS: 50% of the population, equivalent to 150 million Americans, drinks espresso, cappuccino, latte, or iced/cold coffees. COFFEE SHOP FACTS: Independent coffee shops equal \$12 billion in annual sales. At the present time there are approximately 24,000 Coffee Shops across the country. Statistics show there will be approximately 50,000+ Coffee Shops by the year 2010. The average Espresso Drive-thru Business sells approximately 200-300 Cups of Espresso and Coffee Based Drinks per day. Over 50% of Americans over 18 years of age drink coffee every day. This represents over 150 million daily drinkers. 30 million American adults drink specialty coffee beverages daily; which include a mocha, latte, espresso, café mocha, cappuccino, frozen/iced coffee beverages, etc. 65% of all coffee is consumed during breakfast hours, 30% between meals, and the remaining 5% with other meals. (e-Imports Espresso Business Solutions, 2008)

In our community we have nine Starbucks (the number one coffee purveyor in the United States), twelve McDonalds (a company which in the past year has successfully increased their focus on coffee and specialty coffee sales), numerous donut and pastry shops, and convenience marts offering coffee, sundry other chain coffee shops such as It's A Grind, and several privately owned Coffee Houses such as Sweet Eugene's and Coffee Station.

Our coffee shop would constitute less than 1% of the local coffee market. In a market so crowded and admittedly more experienced than a group of high school students one has to wonder what makes A-Plus Coffee so special. In our niche

market of ██████ High School we have over 95% of the coffee market. The other 5% being coffee from shared departmental or office coffee pots. We have 100% of the specialty coffee and cappuccino market. We have approximately 250 staff on ██████ High Campus. If we accept e-Imports statistics then half of them consume coffee daily at least once, that's a projected sales of 125 cups of coffee product a day.

We of course will have the advantage of location. As it is teachers and staff must stop on their way to work in order to get coffee losing time and using resources such as gas. Our coffee, offered in their place of work, brings both quality and convenience. Our prices will also lower than the most popular coffee businesses.

Business Name	12 oz Brewed Coffee	16 oz Brewed Coffee	12 oz Vanilla Cappuccino	16 oz Vanilla Cappuccino
Starbucks	\$ 1.73	\$2.00	\$3.25	\$3.84
McDonalds	\$.99	\$1.19	\$2.29	\$2.79
A-Plus Coffee	\$.75	\$1.00	\$1.25	\$1.75

A-Plus coffee will offer convenience, quality, and lower prices. If our projected half of the staff on campus was to purchase our lowest priced basic coffee that would be a net income of \$123.75.

The raw materials needed to produce our coffee are as follows:

██████ Coffee Filter Packs	\$ 28.00 ea.
██████ Coffee Filter Packs	
DECAF	\$ 29.00 ea.
CUPS 12 oz. Case of 1000	\$ 55.00 case
Cups 16 oz. Case of 1000	\$ 68.00 case
LIDS for above case of 1000	\$ 36.00 case
Sugar Packets case of 1000	\$ 14.00 case
Creamer Packets case of 1000	\$ 18.00 case
Sweet and Low case of 1250	\$ 22.00 case
Stir Sticks	\$ 3.70 box
Hot Chocolate (with and without marshmallows)	\$ 10.95 box
Hot Chocolate (no sugar added)	\$ 8.95 box
Lipton Reg. Tea bags	\$ 4.75 Box
Lipton Decaf Tea	\$ 7.95 box
Bigelow Teas	\$ 4.95 box
Coffeemate Liquids Bulk 180 count 1/2 & 1/2	\$ 10.80 box
Coffeemate Liquids Bulk 180 count Flavors	\$13.80 box
Coffeemate Liquids 50 count Flavors	\$ 5.85 box


All of our raw materials and coffee accoutrements will be purchased from [REDACTED], our provider with them is [REDACTED]. As we will be purchasing their products to sell they will provide all coffee and cappuccino machines. [REDACTED] will provide all maintenance needed on the machines as part of their services to us. To start out we will be purchasing the following products:

Twin City Coffee Filter Packs	\$ 28.00 ea.	
Twin City Coffee Filter Packs DECAF	\$ 29.00 ea.	
CUPS 12 oz. Case of 1000	\$ 55.00 case	
Cups 16 oz. Case of 1000	\$ 68.00 case	
LIDS for above case of 1000	\$ 36.00 case	
Sugar Packets case of 1000	\$ 14.00 case	
Creamer Packets case of 1000	\$ 18.00 case	
Sweet and Low case of 1250	\$ 22.00 case	
Stir Sticks	\$ 3.70 box	
Hot Chocolate (with and without marshmallows)	\$ 10.95 box	
Hot Chocolate (no sugar added)	\$ 8.95 box	
Lipton Reg. Tea bags	\$ 4.75 Box	
Lipton Decaf Tea	\$ 7.95 box	
Bigelow Teas	\$ 4.95 box	
Coffeemate Liquids Bulk 180 count 1/2 & 1/2	\$ 10.80 box	
Coffeemate Liquids Bulk 180 count Flavors	\$13.80 box	
Coffeemate Liquids 50 count Flavors	\$ 5.85 box	

	Total	
--	-------	--

In addition to the coffee products and coffee machines other materials that will be needed are as follows:

Item	Number of items	Purchase price	Purchase place	Total
Cart	1			
Folding Table				
Cash Register	2			
Gloves	X boxes			
Cleaning supplies				
Quicken Books	1			
Small folding table				

#### Section IV Market Research and Analysis

Our target market is the staff, faculty and administration of [REDACTED] both Blue and Sliver Campuses. There are approximately 250 adults working on [REDACTED] High Campus. We presented a survey via the faculty e-mail conference and using Surveymonkey.com. The results of this survey are as follows:

##### 1. Which products would you be interested in purchasing?

Answered question 66

Skipped question 0

	Response Percent	Response
Coffee	68.2%	45
Cappuccino	40.9%	27
Hot Tea	48.5%	32
Cocoa	56.1%	37
Decaf Coffee	13.6%	9
I would not be interested in any of these products	3.0%	2

**2. Which flavors of coffee creamer do you enjoy?**

Answered question 62

Skipped question 4

Response	Percent	Response
French Vanilla	48.4%	30
Hazelnut	30.6%	19
Creamy Chocolate	19.4%	12
Cinnamon Vanilla	33.9%	21
Amaretto	14.5%	9
Irish Cream	29.0%	18
Half and half	32.3%	20
I drink my coffee without creamer	14.5%	9

**3. Which Hot Chocolate flavors would you be interested in?**

Answered question 63

Skipped question 3

Response	Percent	Response
Butter-Nut	15.9%	10
Butter-Nut (No sugar added)	6.3%	4
Swissmiss with Marshmallows	68.3%	43
I'm not a fan of Hot Chocolate	22.2%	14