The Pennsylvania State University
The Graduate School
College of Education

MEASURING THE IMPACT AND VALUE OF TRAINING PROGRAMS: A
QUALITATIVE STUDY OF SELECTED PROGRAMS IN THE WORKFORCE
AND ECONOMIC DEVELOPMENT NETWORK IN PENNSYLVANIA
(WEDnetPA)

A Dissertation in
Workforce Education and Development

by

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ABSTRACT

The workforce has changed dramatically in this country in the last four decades. With the impact of globalization, low skilled jobs and high wages have vanished, leaving behind a workforce with a deficit of high-level skills. In order to improve the knowledge and skills of the workforce, the federal government has attempted to provide the workforce with four different training programs since the 1960s. The four programs-Manpower Development and Training Act, Comprehensive Employment and Training Act, Job Training Partnership Act, and Workforce Investment Act- have never been evaluated for training effectiveness. Although the federal government has spent millions of dollars each year funding these last three national training acts including the most current workforce investment act, the government has failed to conduct an evaluation study to look at the impact of training on the nation’s human capital. Audits have been conducted by the General Accounting Office and have not determined the impact or return on investment of the money invested in the workforce.

The purpose of this study is to examine the impact of The Workforce and Economic Development Network in Pennsylvania (WEDnetPA) funded training program. This program is funded by the Pennsylvania Department of Community and Economic Development. Although the program is marketed as WEDnetPA, the formal name of this program is Guaranteed Free Training (GFT). WEDnetPA is a network of thirty-three community colleges, universities, and colleges referred to as partners that work with eligible companies. This qualitative study is based on thirty-nine interviews with personnel from selected companies, four leaders from the same selected companies,
and five WEDnetPA partners. Research questions focused on: 1) how WEDnetPA funded training impacted the knowledge/skill level of the workforce in selected companies in Pennsylvania 2) how selected companies that received WEDnetPA funded training place value on or measure the free funded training and 3) how selected companies managed transfer of learning with WEDnetPA funded training. Selected participants in the study were required to meet the following criteria: 1) receive WEDnetPA funded training in 2006 and/or 2007 2) be located in five of the workforce investment boards in Pennsylvania 3) represent small, medium, and large companies 4) received business operations and/or communication-teambuilding training that was classified as basic skills training in the WEDnetPA category for the pilot study and 5) classified in the advanced materials and diversified manufacturing and lumber-paper-wood industry clusters with regard to the final study.

Overall, the WEDnetPA funded training program has provided numerous companies financial benefit and the opportunity to offer their workforce a variety of training that would not have been possible without the funding. Many companies have made big strides in improving processes and procedures and strengthening their competitive place in the global battle. The workforce has seen victory by obtaining promotions due to their new knowledge and skill sets and continued employment in their companies. In terms of the negative aspects, companies had suggestions for improvements for WEDnetPA. Some of the suggestions were directed at administration of the program as well as dollar amounts awarded and the regulations of the program. Recommendations for future research and practice are suggested for the WEDnetPA funded training program.
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CHAPTER 1
INTRODUCTION

In the next ten to fifteen years, work in the United States will be shaped by a number of forces, including demographic trends, advances in technology, and the process of economic globalization (Karoly & Panis, 2004, p.1). Globalization and its impact upon the American work system leads to differing views in the economic world depending on an individual’s point of view. According to Hytrek and Zentgraf (2008), globalization is a multifaceted set of processes involving objective and subjective dimensions, a long uneven course that links together the people of the world (p.5). Karoly and Panis (2004) identify globalization as:

The force of globalization represents the economic integration of the U.S. economy with those of the rest of the world in terms of trade, capital flows, labor mobility, and knowledge transfers. As the U.S. economy becomes more integrated with others, the markets for goods and services and even the market for labor become global rather than domestic. Thus, the demand for labor is driven not only by domestic demand but by world demand for U.S. goods and services. Just as U.S. firms compete in a global marketplace, U.S. workers increasingly compete with workers in other countries as employers make decisions, on the basis of labor and other cost differentials, whether to locate production facilities in the United States or overseas (p.9).

Sweet and Meiksins (2008) linked several key characteristics to our new global economy in terms of labor and work such as the immense volume of trade and consumption between societies, the rapid transmission of information between societies,
powerful and transportable technologies implemented throughout the world, intense “dis-integrated” production spread over national boundaries, and flexible arrangements that enable employers to shift production and consumption from one society to another (p.36). Thomas Friedman (2007), author of *The World Is Flat*, interviewed a CEO who shared his opinion on globalization and work:

> Globalization went from globalizing industries to globalizing individuals. I think today that people working in most jobs can sense how what they are doing integrates globally: I am working with someone from India. I am buying from someone in China. I am selling to someone in England. As a result of the ability to move work around, we have created an amazing awareness on the part of every individual that says: Not only does my work have to fit into somebody’s global supply chain, but I myself have to understand how I need to compete and have the skill sets required to work at a pace that fits the supply chain (pp.278-279).

Although the views of globalization may have either a positive or negative connotation, the end result points toward the fact that the American workforce has been left with high skilled work as the low skilled work has transitioned overseas. Between 1977 and 1999, multinational manufacturing firms shed more than three million jobs in the United states (Harrison, McMillan, & Null, 2007, p.351). While three million jobs were lost in the United States, the net increase of jobs in developing countries was approximately three quarters of a million, suggesting a general trend in all parts of the globe toward substituting capital for labor (Harrison, McMillan, & Noll, 2007, p.352). The impact of globalization on the American workforce has led to the following facts: (1)
every day in the United States, 85,444 people lose their jobs and are forced to compete for jobs that pay 21 percent less than the jobs they lost; (2) in the past three years, 2.9 million well-paying U.S. manufacturing jobs have disappeared; (3) experts estimate that 14 million white-collar jobs in the United States will be shipped permanently overseas in the next few years and (4) after losing a job, the average time a person spends out of work increased from 13 weeks in 2003 to 18 weeks in 2005 because of the changes in technology and the fact that there are three job seekers for every one job (Hytrek & Zentgraf, 2008, p.89). Between 1994 and 2002, total U.S. goods trade activity with Canada and Mexico combined increased 75 percent, from $346 billion to $607 billion (Karoly & Panis, 2004, p.154). In India, recent estimates forecast $21 billion in revenue by 2008 due to call center and business processing operations, and employment is projected to increase tenfold from approximately 100,000 to 1.1 million employees (Karoly & Panis, 2004, p.142). Unskilled workers in Mexico can make complex automobile engines for a fraction of the wages received by workers in the United States precisely because the detailed division of labor and machinery have removed the skill content of the job (Yates, 2003, p.93).

The current dilemmas in the American workforce due to globalization are high skilled jobs and an unskilled labor workforce that cannot support high skilled work. Therefore, the global competition with other countries has become even more restrictive. The solution to close the gap is to provide the appropriate training and education to the American unskilled workforce. The future will be directed toward work becoming relatively skilled, and so societies must ensure that their workforces are adequately schooled and trained and, therefore, up to the task (Yates, 2003, p.91). A key challenge
for the public and private sectors will be developing an education and training system that responds to the needs of the twenty-first century labor market (Karoly & Panis, 2004, p.200).

Friedman believes that the American workforce needs the support of the federal government in a flat world. He defines the concept of a flat world in the beginning of his book by introducing the term “flat-world platform.” Flat-world platform is “the phenomenon that is enabling, empowering, and enjoining individuals and small groups to go globally so easily and so seamlessly” (Friedman, 2007, p.10). “Increased international competition spurs the need for a skilled and well-adjusted workforce, and training at the workplace is one way to acquire a skilled workforce” (Schone, 2007, p.151). “On a global basis, the supply of unskilled workers far exceeds that of skilled workers and new technologies are increasing the need for skilled workers” (Thurow, 2000, p.25).

The next two sections will provide a historical background on the federal government’s attempt to address workforce skills and WEDnetPA funded training programs in Pennsylvania under the Workforce Investment Act.

*History of Workforce Education and Development and the Federal Government*

The federal government has attempted to address the lack of skills and knowledge of the American workforce over the last few decades. Although the first public employment programs in the United States were created in response to the Great Depression, the federal government did not truly become heavily involved in training programs until 1961 (Barnow & King, 2000, p.1). Legislators became connected by establishing four workforce education and development acts within the past four decades. The first act developed was the Manpower Development and Training Act (MDTA) of
1962. The goal of MDTA was to eliminate poverty. The act became law during a period of high unemployment, a growing labor force, and a widening impact of technological change upon employment (Committee on Education and Labor, 1973, p.2; Kremen, 2007, pp.11-12). The primary objective of this act was to develop job skills and thereby help the unemployed and underemployed, particularly welfare recipients and other disadvantaged persons, to make the transition to better jobs, better pay, and higher level skills due to a shortage of education, skill training, or substantial work experience (Mangum, 2000, pp.293-294). “MDTA introduced a new concept into federal efforts to help those without jobs and provided $70 million in federal funds to support institutional and on-the-job training” (Comptroller General of the United States, 1972, p.7).

Authorized programs that fell under the Manpower Act were: (1) recruitment, counseling, testing, placement, and follow-up services; (2) classroom instruction in remedial education and occupational skills; (3) training on the job with public and private employers aided by manpower subsidies; (4) work experience and short-term employment for special age groups and those temporarily unemployed and transitional public service employment at all levels of government; and (5) ancillary or supportive services, such as child-care assistance, relocation assistance, and minor health care or treatment (Comptroller General of the United States, 1972, pp. 6-7).

The second attempt was the creation of the Comprehensive Employment and Training Act (CETA) of 1973. CETA was President Richard Nixon’s attempt to increase the participation level of state and local government in the nation’s workforce education and development. CETA focused on job training and skills to the economically disadvantaged members in the workforce. CETA was designed to produce three
outcomes: (1) provide job training and employment for the unemployed, underemployed, and economically disadvantaged; (2) eliminate the waste and inefficiencies of separate project administration by encouraging the development of comprehensive manpower programs; and (3) provide greater responsiveness and flexibility to local needs by placing manpower planning under the state and local political control and decision-making (Lieske, 1978, p.129). CETA was composed of four programs.

Table 1 lists each program under CETA and the eligibility standards.

Table 1

<table>
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<td></td>
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<tr>
<td>Title I</td>
</tr>
<tr>
<td>(Comprehensive Service)</td>
</tr>
<tr>
<td>Title II</td>
</tr>
<tr>
<td>(Public Service Employment Programs)</td>
</tr>
<tr>
<td>December 1973</td>
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<tr>
<td>Title IV</td>
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<td>(Emergency Jobs Program)</td>
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December 1974

“Regular PSE”

of “excessive unemployment” (7% for 3
consecutive months during the year); or

3. Underemployed (as above).

Amended Title IV

October 1976

“Project PSE”

1. Economically disadvantaged and one of the
following:

a. Unemployed 15 of 20 weeks prior to application.

b. Receiving UI for 15 of 20 weeks prior to
application.

c. Unemployed and UI exhaustee.

d. Receiving cash welfare.

e. Veteran.

Source: CETA Regulations, Federal Register.

From “Explaining Benefit Distribution in CETA Programs,” by Donald C. Baumer, Carl E. Van

CETA was unsuccessful in meeting its objectives. The federal government was given too
much power in administering the training and development programs under CETA, and
the government gave eligibility to individuals who did not meet the criteria to enter the
program, leaving the individuals who would most benefit from the programs ineligible.
The federal government was not held accountable. During the era of CETA, cream
skimming negatively impacted the act and all programs involved. Cream skimming is
when the program managers possibly select the most able participants for participation
(O’Leary, Straits, & Wandner, 2004, p.9). “The result of creaming is highly observed
reemployment rates, although many of the selected program participants may already
possess the skills and abilities to get reemployed themselves” (O’Leary, Straits, &
Wandner, 2004, p.9). In order to eliminate creaming or decrease it significantly, the
federal government could have increased appropriations so more of the declared eligible potential participants could have been accommodated (Mangum, 2000, p.301). However, there has always been an interest in working with the current workforce and not the disadvantaged unemployable. The willingness to start with a disadvantaged population and bring this population forward step by step until they can compete in the mainstream has too often been abandoned in favor of merely paying an eligible trainee’s tuition to compete with all other enrollees in ongoing vocational or technical education courses (Mangum, 2000, p.301). As will be discussed, this very factor changed the target audience when the Workforce Investment Act was written and voted into law.

In 1993 the federal government made a third attempt to solve the nation’s workforce development problems by initiating the Job Training Partnership Act (JTPA) program to replace CETA. JTPA had the same intention as CETA: to prepare youth and unskilled adults for entry into the labor force by providing cost-free job training to the disadvantaged and those who face serious barriers to employment (Gray & Herr, 1998, p.268). Other key components under JTPA were (1) similar to CETA, the program under JTPA were required to be locally administered; (2) states, were for the most part, to replace the federal government in monitoring performance of the local programs; (3) the private sector was given the opportunity to play a major role in guiding and/or operating the program at the local level; and (4) the system was to be performance driven, with local programs held accountable for their performance and rewarded or sanctioned based on their performance (Barnow, 1993, p.85).

There were two unique characteristics under the JTPA program. One was customized job training (CJT) programs and the other was private industry councils
(PICs). During the era of this act, the federal government saw the need to work with companies because companies typically faced a scarcity of a particular type of skilled, entry-level worker and JTPA was interested in sponsoring such customized initiatives to train, place, and retain workers in full-time, well-paying jobs (Isbell, Trutko, & Barnow, 2000, p.210). CJT is the active involvement of employers in customized training so that trainees emerge from the training program with the skills and competencies needed for a specific job (Isbell, Trutko, & Barnow, 2000, p.211). Included in the multitude of benefits of companies utilizing CJT programs are the following: (1) costs of training are offset by JTPA; (2) customization of the training program ensures that companies have input into the curriculum and obtain workers who will be productive from day one on the job; (3) customized training provides a flexible arrangement; companies can help choose the training provider, suggest selection criteria for training applicants, and provide their own instructors for the training; (4) JTPA provides screening and assessment of trainees, resulting in excellent recruits for the firm; (5) JTPA has relationships with training organizations and can put companies in touch with excellent training institutions; and (6) JTPA can provide job readiness training and basic skills remediation (Isbell, Trutko, & Barnow, 2000, pp.223-224).

PICs were local administrative units in which training funds were allocated to work with companies (Gray & Herr, 1998, p.268). PICs were responsible for determining which companies were eligible for funding and for supervising the funding given to various educational avenues such as colleges, vocational schools, and business organizations (Gray & Herr, 1998, p.268). Under JTPA, the federal government provides the definition of the objectives, which are increased earnings, employment, and reduction
of welfare dependency; the state government has the basic managerial and coordinating functions, while the design and implementation of programs is placed at the local level (Guttman, 1983, p.5). Overall, CJTs and PICs were a win-win for companies and workers because training under their customized training programs had a positive and direct effect on the firm’s bottom line by contributing to a high performance workforce, a customer service focus, lower turnover, and improved morale (Isbell, Trutko, & Barnow, 2000, p.219).

Ten years after the creation of JTPA, the government started to question the effectiveness of the program. The General Accounting Office (GAO), a branch of the federal government, audited the JTPA program in 1994 while the government was involved in a reform. The GAO found in its investigation that under JTPA, in regard to training and education, 154 programs run by 14 different federal agencies were spending $25 billion a year (Worthen, 2002, p.72). Further, the GAO found that many of the training and education programs were repetitive and ineffective for the workforce based on audits that the GAO had done on JTPA. Programs under CETA were never evaluated and programs under JTPA were evaluated not for effectiveness and applicability but to make certain the programs were operating and creaming was not taking place.

To correct this problem, President Bill Clinton signed the Workforce Investment Act (WIA) into federal law in 1998 as the fourth attempt at creating a federal training program. WIA now replaced JTPA. In the past, MDTA, CETA and JTPA focused primarily on educating and developing the disadvantaged population to transition from the welfare system to the workforce. Clinton realized there was much more to the workforce education and development issue in the nation because American workers had
difficulty securing high skilled jobs in the competitive global economy. The primary purposes of WIA were to create one-stop service delivery centers (PA Career Link) and to consolidate, coordinate, and improve employment, training, literacy, vocational rehabilitation programs, and economic development in the states and their political subdivisions (Casey, 2003, p.4).

WIA transferred authority from the federal government to the states and increased customer choice in selecting job training (O’Leary, Straits, & Wandner, 2004, p.290). In addition, WIA increased the private sector presence on local workforce investment boards, institutionalized one-stop centers, revised performance monitoring practices, and emphasized job placement services over skill training (O’Leary, Straits, & Wandner, 2004, p.290). WIA became a vehicle for accomplishing four goals: rationalizing the federal and state workforce development systems, giving workers a GI bill type choice to buy job-training services, providing a mechanism for moving people coming off welfare into work, and providing employers with training options that would alleviate the high-skilled labor shortage that was part of the boom economy of the 1990s (Worthen, 2002, p.74). As mentioned previously, WIA focused more on the unskilled worker and less on the disadvantaged unemployable. Mangum (2000) comments:

Workforce Investment Act appropriated lesser funding for nondislocated adults and eliminated the limitation of that segment to the economically disadvantaged. It also endorsed “work first” with a vengeance. It specified that the nondislocated adults, including those newly deprived of public assistance, could receive training paid for with WIA funds only if they could not find any job, no matter how rudimentary and ill-paid, without being trained. At least those of the poor and
former welfare recipients who cannot find those rudimentary jobs do not get priority for that portion of funds left for training after being used for “core” and “intensive” services by populations unrestricted by economic status (p.295).

Table 2 provides a chronology and summarization of the four job training acts in America.

Table 2

A Chronology of Federal Job Training Programs in the United States

<table>
<thead>
<tr>
<th>Program</th>
<th>Training types</th>
<th>Eligibility</th>
<th>Intergovernmental relations</th>
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<td>Manpower Development and Training Act (MDTA), 1962</td>
<td>Institutional and on-the-job training (OJT).</td>
<td>Low income and welfare recipients</td>
<td>Federal funding granted directly from 12 regional offices to agencies in local areas. Administration and reporting structures similar.</td>
</tr>
<tr>
<td>Comprehensive Employment and Training Act (CETA), 1973</td>
<td>On-the-job training, classroom skill training, classroom soft skills training, work experience in public agencies, and Public Service Employment (PSE).</td>
<td>Training was targeted to low income persons, welfare recipients, and disadvantaged youth.</td>
<td>Federal funding granted to prime sponsors in substate regions which numbered about 470. Performance monitoring with results reported to the U.S. Department of Labor (USDOL).</td>
</tr>
<tr>
<td>Job Training Partnership Act (JTPA), 1982</td>
<td>On-the-job training, classroom skill training, classroom soft skills training, and work experience in public agencies.</td>
<td>Low income, public assistance recipients, dislocated workers, and disadvantaged youth.</td>
<td>Federal funding through state governors to private industry councils (PICs) in each of 640 service delivery areas. PIC performance reports to governors who reported to USDOL.</td>
</tr>
<tr>
<td>Workforce Investment Act (WIA), 1998</td>
<td>On-the-job training, customized classroom skill training, classroom soft skills training, and work experience in public</td>
<td>Access to core services like job search skills and job referral is unrestricted. Training is targeted to the most difficult</td>
<td>Like JTPA, but PICs became fewer (600) workforce investment boards (WIBs) with private sector majority membership. Monitoring is reduced</td>
</tr>
</tbody>
</table>
The Birth of WEDnetPA Funding

When President Clinton passed WIA, Governor Tom Ridge was making plans for the workforce of Pennsylvania as well. The federal government gave each state the large task of developing an effective workforce development system in meeting the local workforce and economic development needs of the Commonwealth, its regions, and its communities (Casey, 2003, p.4). The workforce development system was to include a workforce investment board. In 2000, Ridge established the Team Pennsylvania Workforce Investment Board. Five leading state agencies served under the board. These agencies were the Department of Aging, Department of Labor and Industry, Department of Community and Economic Development, Department of Education, and Department of Public Welfare. The Department of Community and Economic Development (DCED) has responsibility for funding CJT and the WEDnetPA program. From April 1999 through June 2007, both of these programs provided funding for the training of more than 669,860 Pennsylvanian workers and 11,322 companies (Workforce & Economic Development Network, 2007, p.4).

The impacts of globalization have been evident as real wage growth in developed countries such as the United States has been below historical levels in recent years (Bennici, Mangum, & Sum, 2000, p.20). The issue that Pennsylvania is facing currently as a member of a developed country is that a significant amount of the workforce remains unskilled and cannot compete in the global market. The unskilled workforce places
Pennsylvania in an unfavorable position as existing businesses relocate to other states that have a higher skilled workforce and Pennsylvania has difficulty attracting other businesses. In 1957, 73% of Pennsylvania’s jobs were unskilled compared to today’s estimate of 24% (Commonwealth of Pennsylvania Department of Labor & Industry, n.d., p.1). There has been a drastic change in the percentages as jobs have left the country.

When Governor Edward Rendell took office, he realized that the workforce in Pennsylvania was still at a disadvantage. A large number of manufacturing jobs were leaving the area and the workforce lacked the skills to compete in the other industry clusters in order to remain competitive. As a result, the unemployment rate was rising. Rendell realized there were several key items that the state must work toward in order to remain competitive in the global market. Thus, Rendell created the Pennsylvania Workforce Development System, which included actual strategic planning. The Pennsylvania Workforce Development System became a part of Ridge’s Team Pennsylvania Workforce Investment Board. The workforce development board had many different responsibilities such as designating local workforce investment areas; reviewing and approving local workforce investment plans; promoting Pennsylvania in matters of business retention, expansion, and relocation; and improving communication and collaboration among professionals serving Pennsylvania’s businesses (Casey, 2003, p.6).

The Departments of Labor and Industry, Community and Economic Development, and Education have identified nine targeted industry clusters in Pennsylvania. Industry clusters consist of a group of industries that are closely linked by common product markets, labor pools, similar technologies, supplier chains, and/or economic ties (Center for Workforce Information and Analysis, 2004, p.2). These
clusters indicate where the state needs to focus on competitive occupations with high paying skilled jobs. These clusters are used by the state’s leading workforce development agencies the Departments of Labor & Industry, Community & Economic Development, Education, and Public Welfare to develop effective workforce strategies that focus scarce training dollars on existing and projected job opportunities (Center for Workforce Information and Analysis, 2004, p.2). The clusters are used to (1) provide a consistent definition that allows for the comparison of the industrial structure of Pennsylvania’s regional economies; (2) identify major employers in significant clusters as a springboard for building industry partnerships; (3) provide a basis for occupational data analysis knowledge, skills, abilities (KSA) by grouping together industries that share workforce needs; and (4) direct resource allocation to the preparation of the Commonwealth’s workforce for jobs that will offer family-sustaining wages (Center for Workforce Information and Analysis, 2004, p.3). The nine industry clusters include life sciences; business and financial services; education; advanced materials and diversified manufacturing; building and construction; agriculture and food production; information and communication services; logistics and transportation; and lumber wood and paper. Two of the state’s programs, customized job training (CJT) and Guaranteed Free Training (WEDnetPA), are funded by the Department of Community and Economic Development that addresses employers’ needs to train the unskilled workforce in the skills needed to be employed within the cluster areas. The official program title of WEDnetPA is the Guaranteed Free Training (GFT) Act. WEDnetPA is merely the network of the thirty-three universities and colleges that serve as a representative/Coordinator of the program. The state has marketed the program
successfully as WEDnetPA, and which companies have come to know the program under only WEDnetPA and not GFT. Therefore, for purposes of this study, the program will be referred to as WEDnetPA.

Under the Pennsylvania workforce investment board, the state has thirty-three partners that are educational institutions spread throughout the state. The Department of Community and Economic Development funds each partner and enables businesses to work intimately with partners in their areas to apply and secure WEDnetPA funds for training and development. The thirty-three partners provide companies with services such as maximizing their investments in employee development with assistance applying for and using state job training grants to increase worker productivity and skills; providing planning and administrative support for implementing training and employee development programs; providing implementation support for training and employee development programs designed to assist businesses in meeting their performance goals and objectives; and providing resources and assistance implementing human resource and training “best practice” programs and services (WEDnetPA & WORKS Partnership, 2002, p.1) The partners work with companies to determine eligibility for the program and to ensure that the funds are being utilized appropriately. Pennsylvania College of Technology is the guarantor of the program and reports to DCED, which has ultimate jurisdiction of the program. Community colleges (partners) developed alliances with industries to provide customized training for incumbent workers, and they became the principal source of training for businesses (O’Leary, Straits, & Wandner, 2004, pp.298-301). Eligible training providers are approved by the state’s workforce investment board to provide WEDnetPA funded training to approved businesses. WIA allows businesses to
secure their own training provider if they should desire. This is a new process; previously, under, MDTA, CETA, and JTPA, the training providers were selected for the companies. The present model is referred to as the free choice model. Under this model, companies are given the WEDnetPA funds and are permitted to coordinate their training with their own training providers. Free choice is one extreme of the voucher spectrum and gives the individual training recipient the most flexibility and responsibility (O’Leary, Straits, & Wandner, 2004, p.293).

The Problem

The purpose of this study was to examine the impact of WEDnetPA funded training programs in thirty-nine companies. The researcher looked at the specific training programs attended by employees of each of the thirty-nine companies. Little research exists on evaluating training programs funded with state dollars. The Pennsylvania Workforce Development System has been audited by the Auditor General and other levels of the state. According to the Auditor General, “we did not audit the specific results of the 40-plus separate program areas (for example, customized job training and industry specific training) that make up the workforce development system to see whether each program was a success or failure, or even the specific costs associated with each, because the Pennsylvania Workforce Investment Board had no accurate, complete reporting or evaluation system in place at the time of the audit” (Casey, 2003, p.viii).

There were five leading partners that composed the membership of the state board. The five leading partners were the Departments of Labor and Industry, Public Welfare, Community and Economic Development, Education, and Aging. Their purpose was to drive the partners and local workforce investment boards. The Auditor General found the
following deficiencies with the performance of the five lead partners: they (1) allowed a breakdown in coordination to occur at locally chartered sites that were established across the state to match employers with job seekers; (2) conducted ineffective quality reviews of chartered sites; (3) allowed some local sites to operate without charters and quality assurance reviews; (4) failed to fully coordinate their activities or cooperate with one another; (5) failed to ensure funding sources were streamlined or that training funds were used effectively; (6) neglected to develop strategies to assist local workforce investment boards in providing support services to job seekers and employers; (7) did not ensure in every instance that local workforce investment boards had adequate oversight; (8) did not ensure the development of a system for comprehensive, accurate, and timely reporting of the State Board’s work; and (9) provided inaccurate and insufficient information in reports they did produce (Casey, 2003, pp.vi-viii).

The federal training programs MDTA, JTPA, and WIA have been evaluated by the GAO. However, the federal government or the Pennsylvania government has not invested the time to conduct an actual evaluation or impact study of the training. Government officials have never evaluated transfer of learning or impact on organizations. There is no documentation showing that the government has attempted to conduct a forecasted return on investment. Forecasting financial benefit (FFB) is a practical step-by-step method for making accurate investment decisions based on forecasting the financial value of improved performance projections for a program, the cost of implementing a program, and the return on the program investment (Swanson, 2001, p.159). Forecasting financial benefits of WEDnetPA funded training programs would be advantageous for the state because this information would influence the state’s
investment decisions early on with companies. Economic analysis of human resource
development can be used to decide whether to invest in and then whether to continue a
human resource development program (Swanson, 2001, p.11; Swanson & Sleezer, 1989,
p.63). In addition, the state would be viewed as a business partner, proactive, and
strategic with its external and internal customers such as legislators and companies. With
human resource development financial benefit assessment, professionals such as human
resources and trainers have the means to show decision makers in their company how to
value human resource development (Swanson, 2001, p.11; Swanson & Sleezer, 1989,
p.63).

“Evaluation of job training in the United States has involved both monitoring
gross outcomes through performance management systems and estimating of net program
impacts through comparison group designs” (O’Leary, Straits, & Wandner, 2001, p.17).
The outcomes the government has evaluated at JTPA are the entered employment rate,
average wage at placement, cost per entered employment, and the entered employment
rate for welfare recipients (O’Leary, Straits, & Wandner, 2004, p.26). The government
has only evaluated broad general outcomes; it has not studied the impact of training
programs on organizations that participated specifically by looking at transfer of
knowledge and benefits of the training to organizations through the utilization of their
dollars. The Department of Community and Economic Development and The Workforce
Development and Continuing Education of WEDnetPA (Pennsylvania College of
Technology) has shown an interest in studying the impact of WEDnetPA funded training
on the workforce of Pennsylvania. One of the 2007 initiatives listed on the WEDnetPA
website is to possibly conduct return on investment studies of the training programs to
determine effectiveness and impact. This is an impressive initiative for the state as the state is trying to avoid another ineffective training system such as the predecessors MDTA, JTPA, and CETA.

Significance of the Study

This study provided two significant contributions. The first contribution provided qualitative results that enhanced the fact that more training is needed for the workforce in order to better prepare the workforce for higher skilled jobs. Thirty-nine companies were interviewed for this study and the employees of all thirty-nine companies received valuable skills and increased knowledge from the WEDnetPA funded training. The participants in the study commented on how WEDnetPA funded training improved their employees’ performance and in some cases also brought new business to the organization that increased profitability due to the expanded knowledge and skill base of their employees. Rendell believes “in our 21st century economy, education is the key to progress, and without it our workers are at a distinct disadvantage” (Commonwealth of Pennsylvania Department of Labor & Industry, 2006, High priority occupations summary section, ¶ 2).

The second contribution provided feedback on the quality, value, and effectiveness of WEDnetPA funded training to The Workforce Development and Continuing Education of Pennsylvania. The state spends millions of dollars a year on training and development for its workforce and has never studied the impact on the workforce. For the 2008-2009 budget, Rendell is proposing $20 million for customized job training and $3 million for workforce development grants (Rendell, 2008, p.A1.11). These contributions are made based on the outcomes of the three research questions
posed in this study. The research questions address transfer of learning (R1, R3), impact of training results on the organization (R1), and measurement of value in the organization and workforce (R2).

Research Questions

This study will seek to answer the following research questions:

1. How has WEDnetPA funded training impacted the knowledge/skill level of the workforce in selected companies in Pennsylvania?
2. How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure WEDnetPA funded training?
3. How does the transfer of learning of WEDnetPA funded training take place in the selected companies?

With regard to research question one, the researcher studied the specific WEDnetPA funded training programs that each of the thirty-nine selected companies received. The researcher looked at each individual company to determine how the WEDnetPA funded training programs the company received impacted the company’s specific workforce. For research question two, the researcher sought to determine how each selected company placed value on or measured WEDnetPA funded training programs that they received. The researcher looked at value in the context of companies finding the WEDnetPA funded training beneficial to their workforce and organization where positive effects were obtained from the training. Companies had interest to train the workforce because the companies understood the importance of a well-skilled workforce that could compete competitively on a global level. A company that valued training instilled the value in its workforce and influenced the workforce to be
motivated to learn. The researcher looked at measurement in the perspective of training effectiveness to determine if each company had a measurement tool or strategy that it utilized in order to measure training effectiveness. Measurement tools could have consisted of forecasting return on investment, return on investment (ROI), performance reviews, cost benefit analysis, historical data records, and other methods. In addition, five WEDnetPA partners and four leaders of the same organizations were interviewed to provide credibility to the study and as data sources to address all three research questions.

Limitations

Several limitations were posed on this study, including sample size and the population. Ten regions in the state receive WEDnetPA funding. Thirty-three universities and colleges referred to as partners oversee the WEDnetPA funding and work with the local businesses in each region. This study focused on five of the ten regions. The regions were Lehigh Valley, Southcentral, Central, Southeast, and Southwest. A pilot study was conducted last year and focused on eight companies in the regions of Northeast, Lehigh Valley, Southeast, and Southcentral. For this final study, thirty-nine companies were selected to interview. The companies represented small, medium, and large businesses. Small companies were defined as companies with 100 employees or less, medium sized companies are 100 to 499 employees and large companies are 500 employees or more (United States Department of Commerce News, 2002, p.2). This is a limitation due to confining the population of the study within five regions and selecting a very small sample compared to the tens of thousands of companies that have received WEDnetPA funds since 1999.
Another limitation was that the study focused primarily on the positive impact of training. The researcher attempted to uncover negative aspects during the interview process. The interview instrument does not contain any questions specifically addressing negative impact, however, the researcher made an attempt by asking probing questions during the interviews. The researcher referred to Random House Webster’s Pocket American dictionary to define what is meant by “positive” and “negative.” “Positive” is defined as definite or certain and “negative” is defined as lacking positive attributes (Random House Webster’s Pocket American Dictionary, 2001, p.238, 278). As the stakeholder for this study, the Director of WEDnetPA programs has requested to mainly focus on the positive impact of the training.

**Assumptions**

Without appropriate skills to attract new and profitable industries in the state and keep the workforce employed, Pennsylvanians will continue to suffer with high unemployment rates and money not being filtered back into the economy. There have been some significant gains from companies who took advantage of the WEDnetPA program for their workforce. One small business owner who took advantage of WEDnetPA provided WEDnetPA with the following testimonial:

Start with six hundred thousand dollars a year in savings, all brought about because our employees rethought our basis production processes. Add a 75% reduction in manufacturing cycle times, followed by a two-thirds reduction in designated quality inspections. The bottom line is, we’ve doubled our revenue in just five years. All because of the kind of training we’re doing. Fact is, the more training we give, the better we
Another company stated that the training through WEDnetPA funds have enabled the company to secure over $400,000 in new business over a six-year period (Workforce & Economic Development Network, 2007, p.1).

Theoretical and Conceptual Framework

This study will focus on the theoretical framework of human capital theory. The conceptual framework that will be applied to this study is the evaluation of MDTA, CETA, JTPA, and WIA in application of Donald Kirkpatrick’s evaluation model, transfer of learning, forecasted return on investment, and other evaluation methods. The rationale of eliminating MDTA, CETA, and JTPA will be discussed. The theoretical and conceptual framework will be briefly examined as an introduction. In Chapter two, literature review, the theoretical framework will be discussed in detail in application to the study.

Human Capital Theory

Dr. Gary Becker (1962), recipient of the 1992 Nobel Memorial Prize in Economic Sciences provides his view on the investment of human capital theory:

The general theory has a wide variety of important applications. It helps to explain such diverse phenomena as interpersonal and interarea differences in earnings, the shape of age-earnings profiles the relation between age and earnings and the effect of specialization on skill. For example, because observed earnings are gross of the return on human capital, some persons earn more than others simply because they invest more in themselves. Because “abler” persons tend to invest more than others, the
distribution of earnings would be very unequal and skewed even if “ability” were symmetrically and not too unequally distributed. Another example, learning on and off the job has the same kind of effects on observed earnings as formal education, training, and other recognized investments in human capital, and can be considered one way to invest in human capital (Becker, 1993, pp.245-246).

Educational researchers extensively apply human capital theory as a theoretical framework because of its applicability. For organizations, employees are the human capital. The theory looks at capital as the people that hinges on the success or failure of a business. If organizations appropriately use their employees, then organizations will have value added capital. Workplace training and development is a major investment for organizations in order to keep the company and employees competitive in a global economy.

_Evaluation of MDTA, CETA, JTPA, and WIA_

There have been very few evaluation studies completed on a state and federal level evaluating MDTA, CETA, JTPA, and WIA and the programs under the acts. “Evaluation of job training in the United States has involved both monitoring gross outcomes through performance management systems and estimation of net program impacts through comparison group designs” (O’Leary, Straits, & Wandner, 2004, p.17). These acts will be explored in the literature review in application of Kirkpatrick’s evaluation model and a number of other evaluation methods. In addition, transfer of learning will be reviewed as this is a key component in this research. When looking at the impact of WEDnetPA training, transfer of learning
plays a crucial role in determining the impact. The importance to this study lies in the researcher trying to determine if transfer of learning occurred post-training at the work area. Transfer of learning is a prime indicator in determining how effective the training was for the employee. Training professionals need to pose specific questions to help better evaluate transfer of learning. Specific questions evaluating training effectiveness have been demonstrated by Kirkpatrick & Kirkpatrick (2006) as “what happens when trainees leave the classroom and return to their jobs; how much transfer of knowledge, skills, and attitude occurs; and what change in job behavior occurred because people attended a training program” (p.52). Transfer of learning involves the application, generalizability, and maintenance of new knowledge and skills (Holton, Bates, & Ruona, 2000, p.334). Near and far transfer is a specific type of transfer of learning that occurs as a result of training. The concept of near and far transfer applies to this study and will be introduced in the literature review.

**Definition of Terms**

*Manpower Development and Training Act (MDTA):* In 1962, the federal government developed a national training program “to retrain workers whose skills had become outmoded or had been replaced by automation and to channel the workers into emerging fields where appropriate skilled labor force was scarce” (Comptroller General of the United States, 1972, p.7).

*Comprehensive Employment and Training Act (CETA):* Signed into law in 1973, it is, “a multibillion dollar federal assistance program designed to provide job training and employment opportunities for economically disadvantaged, unemployed, and underemployed persons” (Comptroller General of the United States, 1980, p.1).
Customized Job Training (CJT): “Designed to meet the special requirements of employers. Conducted with a commitment by the employer to employ an individual on successful completion of the training” (Workforce Investment Act of 1998, Title I subtitle A workforce investment definitions, ¶ 1).

Department of Community and Economic Development (DCED): “The mission of this department is to foster opportunities for businesses and communities to succeed and thrive in a global economy, thereby enabling Pennsylvanians to achieve a superior quality of life” (Rendell, 2008, p.E11.1).

Incumbent Worker: “Currently employed workers whose employers have determined that the workers require training in order to help keep their firms competitive and the subject workers employed, avert layoffs, upgrade workers’ skills, increase wages earned by employees and/or keep workers’ skills competitive” (Joseph, p.1).

Job Training Partnership Act (JTPA): “Enacted on October 13, 1982 replacing CETA as the nation’s major employment and training legislation, the program intended to prepare youth and adults facing serious barriers to employment for participation in the labor force by providing job training and other services that will result in increased employment and earnings, increased educational and occupational skills, and decreased welfare dependency, thereby improving the quality of the workforce and enhancing the productivity and competitiveness of the nation” (U.S. Department of Labor Employment and Training Administration, 1997, p.A-3).

On-the-Job Training (OJT): “Training provided to an employee in occupational or other skills essential to performing a specific job or group of jobs. Such training is
generally used for entry-level employment and skill upgrades” (United States General Accounting Office, 1994, p.24).

**Workforce & Economic Development Network in Pennsylvania (WEDnetPA):** “The mission of WEDnetPA is to strengthen the business environment of the Commonwealth of Pennsylvania by providing a training network that is responsible to employers’ workforce development needs. We strive to help business and industry improve worker productivity through investments in employer sponsored training programs that create ‘high performance’ workplaces where ‘continuous improvement and learning’ are valued as competitive advantages” (WEDnetPA & WORKS Partnership, 2002, p.1).

**Workforce Investment Act (WIA):** “Signed by President Clinton on August 7, 1998 as a comprehensive reform legislation that supersedes the Job Training Partnership Act intended to be customer-focused to help Americans across the tools they need to manage their careers through information and high quality services and to help U.S. companies find skilled workers” (Workforce Investment Act of 2000, p.49294).
CHAPTER 2

LITERATURE REVIEW

The theoretical framework that will be presented and discussed in this literature review is human capital theory. The theoretical framework will show applicability to the study through the literature. The conceptual framework that will be discussed is an evaluation of the Manpower Development and Training Act, Comprehensive Employment and Training Act, Job Training Partnership Act, and Workforce Investment Act with discussion of transfer of learning and Kirkpatrick’s evaluation model, as well as a number of other evaluation methods. In addition, discussion will also consist of the determination of GAO in eliminating the Manpower Development and Training Act, the Comprehensive Employment and Training Act, and the Job Training Partnership Act through their audit studies and the creation of the Workforce Investment Act as the government’s most current attempt at a national training solution.

Human Capital Theory

Dr. Gary Becker is one of the most brilliant economists of this century. Dr. Becker (1976) believed that the economic approach is clearly not restricted to material goods and wants (p.6). Dr. Becker applied an economic approach to many different subject areas of human behavior, such as productivity and time, law and politics, marriage and family, social interactions and, of course, human capital. He found that the economic approach provides a useful framework for understanding all human behavior (Becker, 1976, p.14). All human behavior can be viewed as
involving participants who maximize their utility from a stable set of preferences and accumulate an optimal amount of information and other inputs in a variety of markets (Becker, 1976, p.14).

Dr. Becker’s predictions on human capital theory are controversial in the economic world. Some of his predictions are as follows: (1) earnings typically increase with age at a decreasing rate. The rate of increase tends to be positively related to the level of skill; (2) unemployment rates tend to be negatively related to the level of skill; (3) firms in underdeveloped countries appear to be more “paternalistic” toward employees than those in developed countries; (4) younger persons change jobs more frequently and receive more schooling and on-the-job training than older persons do; (5) the distribution of earnings is positively skewed, especially among professional and other skilled workers; (6) abler persons receive more education and other kinds of training than do others; (7) the division of labor is limited by the extent of the market; and (8) the typical investor in human capital is more impetuous and thus more likely to err than is the typical investor in tangible capital (Febbrero & Schwartz, 1995, p.37).

Many other academic scholars, economists, and non-economists that either agree with Becker’s philosophy of human capital or have built upon Becker’s definition to fit their own human capital philosophies. Sweetland (1996) wrote that human capital theory rests on two basic assumptions. These are that education helps develop skills of work- that is, improves the capacity of the worker to be productive- and earned income reflects marginal productivities of different categories of workers (p.354). Edvinsson and Malone (1997) define human capital as follows:
All individual capabilities, the knowledge, skill, and experience of the company’s employees and managers, is included under the term human capital. But it must be more than simply the sum of these measures; rather, it also must capture the dynamics of an intelligent organization in a changing competitive environment. For example: Are employees and managers constantly upgrading their skills and adding new ones? Are these new skills and competencies recognized by the company and incorporated into its operations? And are these new skills, as well as the experiences of company veterans, being shared throughout the organization? Human capital also must include the creativity and innovativeness of the organization. How often are the new ideas generated in-house? How often are those ideas implemented? And what is the ratio of their success? (pp.34-35).

WEDnetPA funded training provides organizations the opportunity to apply for free training funds in order to invest in their workforce. Due to globalization, the federal government must take an active role in better preparing the nation’s workforce. Human capital theory is a major avenue for the federal government to accomplish this goal. Enhancing the skills of American workers through increased job training is often deemed necessary for the United States to compete in the global market (Veum, 1999, p.526). Training must increasingly be viewed as a way of preserving, and investing in, knowledge (Rothwell & Kolb, 1999, p.51). The human capital model suggests that an individual’s decision to invest in training is based on
an examination of the net present value of the costs and benefits of such an investment (Veum, 1999, p.526). The state of Pennsylvania and the federal government invest in the nation’s workforce by spending millions of dollars every year with on-the-job customized training and basic skills training. The officials of the state and government are seeking a higher skilled workforce, increased productivity, and stability of jobs as a return of their investment in human capital. Training is expected to make workers more productive and workers collect the return from their investment in later periods through higher marginal products and higher wages (Veum, 1999, p.526). Workers also have a stake in human capital investment with regard to the probability of earning higher wages as a result of acquiring higher-level skills.

Measurements of human capital for organizations are vitally critical since organizations invest a significant amount of money in their workforces. As employee costs today can exceed 40% of corporate expenses, measuring the ROI in human capital is essential (Fitz-enz, 2000, p.3). Training is considered an investment and, as with any other investment, entails costs and benefits which can be evaluated by economic criteria such as the present-value method and the internal rate of return method (Barcala, Perez, & Gutierrez, 1999, p.2).

Fitz-enz (2000), the father of human capital measurement, believes that without proper measurement human capital professionals will not be able to (1) communicate specific performance expectations; (2) know what is going on inside the organization; (3) identify performance gaps that should be analyzed and eliminated; (4) provide feedback comparing performance to a standard or a benchmark; (5) recognize
performance that should be rewarded; and (6) support decisions regarding resource allocation, projections, and schedules (p.4). Phillips (2005) explains the value of measuring human capital: (1) contributing to the organization; (2) setting priorities on successful programs and eliminating ineffective programs; (3) focusing on results-based programs; (4) earning the respect of senior executives and sponsors; and (5) altering management’s perceptions of human capital (pp.171-172).

There are common human capital measures that organizations can target when conducting evaluation studies and measuring human capital investments. Table 3 shows the common human capital measures.

Table 3

Common Human Capital Measures

<table>
<thead>
<tr>
<th>1. Innovation and Creativity</th>
<th>7. Productivity</th>
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<tr>
<td>• Innovation</td>
<td>● Unit productivity</td>
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<tr>
<td>• Creativity</td>
<td>● Gross productivity</td>
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<tr>
<th>2. Employee Attitudes</th>
<th>8. Workforce Profile</th>
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<tr>
<td>• Employee satisfaction</td>
<td>● Demographics</td>
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<td>• Organization commitment</td>
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<td>• Employee engagement</td>
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<td>• Turnover and termination</td>
<td>● Job growth</td>
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<tr>
<td>• Tenure and longevity</td>
<td>● Recruitment sourcing and effectiveness</td>
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<th>4. Employee Capability</th>
<th>10. Compensation and Benefits</th>
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<td>• Experience</td>
<td>● Compensation</td>
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<tr>
<td>• Learning</td>
<td>● Employee benefits</td>
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<tr>
<td>• Knowledge</td>
<td>● Variable compensation</td>
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<tr>
<td>• Competencies</td>
<td>● Employee ownership</td>
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<td>• Educational level</td>
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<th>5. Human Capital Investment</th>
<th>11. Compliance and Safety</th>
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<td>• HR department investment</td>
<td>● Complaints and grievances</td>
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<td>• Total HC investment</td>
<td>● Charges and litigation</td>
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<td>• Investment by category</td>
<td>● Health and safety</td>
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<tr>
<td>• 360° feedback</td>
<td>● Absenteeism and tardiness</td>
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<td>● Work/life balance</td>
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Evaluation of MDTA, CETA, JTPA, and WIA

As discussed in the previous section, human capital investments must be evaluated to determine their efficiency and effectiveness. Past GAO studies of the first three acts—MDTA, CETA, and JTPA—have determined the acts’ ineffectiveness in providing skills and knowledge to the nation’s disadvantaged workforce. A discussion of these three acts will demonstrate the domino effect of how the GAO made determinations of eliminating each act and replacing it with the next. Following this will be a discussion of evaluation and measurement, specifically Kirkpatrick’s level three and four, human capital measurements, and several other evaluation models of which the federal government could have used theoretically in measuring training program effectiveness within each act.

Elimination of MDTA, CETA, and JTPA

Manpower Development and Training Act

Legislators amended MDTA in 1963, 1965, 1966, 1968, and 1972 (Committee on Education and Labor, 1973, p.2). As a result of the original intentions of the act in 1962 and each amendment, MDTA possessed six identifiable objectives: (1) facilitate employment of the unemployed; (2) reduce poverty; (3) lessen inflationary pressures; (4) meet labor shortages; (5) upgrade the labor force; and (6) revamp traditional institutions (Committee on Education and Labor, 1973, p.2). In 1971, the GAO decided not to pursue upgrading of programs in MDTA due to the results the GAO received from a survey of the Department of Labor’s training activities (Comptroller General of The United States,
1972, p.6). The U.S. Comptroller General recommended that MDTA be enacted to more effectively use upgrading as a means of meeting skill shortages, improve controls over the length of on-the-job training, and improve controls over contractors’ “maintenance of effort” (Comptroller General of The United States, 1972, p.1). The main issue with MDTA was that the 17 programs under the act were segregated and various private organizations had control. The GAO found in its audit that the separated programs resulted in a complex, confusing, and uncoordinated effort to assist the targeted audience to become gainfully employed (Committee on Education and Labor, 1973, p.11). The Comptroller General of the United States improved controls over contractors’ maintenance of effort by condensing the 10,000 separate contracts in a new system where the local government of each state could administer its own programs under the general direction of the Secretary of Labor (Committee on Education and Labor, 1973, p.11). The federal government believed the main purpose of MDTA was worth preserving; however, the government wanted to join the 17 programs and give the authority of managing those programs to the local government. Thus, MDTA dissolved and CETA evolved.

**Comprehensive Employment and Training Act**

“CETA combined many of these categorical programs into a single block grant and transferred responsibility for their administration from the federal to the state and local governments” (The National Research Council, 1980, p.1). In addition, “CETA was to discontinue 17 separate and independent programs to give prime sponsors the flexibility to put together a mix of manpower services suitable to their localities” (The National Research Council, 1978, p.5). According to the federal government, “prime sponsors include states, cities, counties, and combinations of local government units”
The responsibility given to prime sponsors involved designing and executing the programs and ensuring the programs’ goals were being met.

The programs under CETA included the following: (1) outreach to needy persons to make them aware of available employment and training services; (2) assessment of individuals’ needs, interests, and potential; referral to appropriate jobs or training; and followup to help new workers stay on the job; (3) orientation, counseling, education, and classroom skill training to help people prepare for jobs or qualify for better jobs; (4) subsidized on-the-job training; (5) allowances to support trainees and their families, and needed services such as child care and medical aid; (6) development of information concerning the labor market and activities, such as job restructuring, to make the market more responsive to objectives of the manpower service programs; (7) transitional public service employment programs to enable participants to move into unsubsidized jobs; and (8) special programs for groups, such as Indians, migrants, ex-offenders, and youth (Comptroller General of the United States, 1980, pp. 1-2). “In addition, it was expected that the quality assumedly would improve if local institutions had to compete for the right to provide CETA services” (Levitan & Mangum, 1981, p.11).

As mentioned in chapter one, a major issue with CETA was the GAO suspected that the federal government was practicing creaming through audits. Creaming was defined previously in chapter one. Another major issue with CETA was that the prime sponsors were being fraudulent and inappropriate with funds. From 1973 to 1983, CETA funds exceeded $60 billion (U.S. General Accounting Office, 1984, p.i). A major cause of wasteful CETA programs was that some prime sponsors were weak in selecting,
monitoring, auditing, and evaluating their subgrantees (Committee on Government Operations, 1980, p.4). The subgrantees were referred to as the clients that are eligible for services by the government. Many prime sponsors continue to pick subgrantees based on considerations other than the quality of services delivered, with little attention to past performance (Committee on Government Operations, 1980, p.4). The Committee on Government Operations conducted an audit in 1980 and reported to Congress that the prime sponsors were not being responsible for their power of authority in the development of CETA in regard to managing funds and making certain that the appropriate target audience was receiving services (Committee on Government Operations, 1980, p.4). “Fraud and misuse of funds occurred internally where, for example, a federal employee was able to embezzle almost $42,000 because this individual had complete control over the entire payroll process” (U.S. General Accounting Office, 1984, p.ii). The Comptroller General made a similar report to Congress questioning the audits because the audit reports did not specify how the funds were being used and the audits themselves were very limited in number. The auditing had not provided the assurance such audits should provide because there were too few auditors and thus too few audits and many of the audits performed did not meet applicable audit standards and thus were not fully reliable for determining whether funds were properly safeguarded and used (Comptroller General of the United States, 1980, p.iv). Due to these issues, CETA was soon eliminated, and in 1982 the government made another attempt at a national workforce training act referred to as Job Training Partnership Act.
The federal government made many changes under JTPA as legislators learned hard lessons from MDTA and CETA. Some of the major changes were: (1) equalizing authority between the private and public sectors over all aspects of local policy-making, planning, administration, and program operations; (2) changing the degree to which the local government makes fundamental decisions on how federal funds will be administered and programs managed; (3) emphasizing on spending most funds for training, backed up by specific limits on the portion of local funds that can be used for administrative expenses, wages, supportive services, and trainee allowances; and (4) introducing earnings gains and reduced welfare dependency as mandated measures of performance, which will require local programs to achieve minimum performance goals if they expect to continue to receive funds (The National Alliance of Business, 1983, p.1).

The primary issue with the dissolving of JTPA was the ineffectiveness of programs and the waste of federal funds for the programs. In 1995, the GAO examined JTPA for opportunities to save costs. The GAO found that many training programs overlapped in purpose and many of these programs were ineffective (U.S. General Accounting Office, 1995, p.6). In addition, these programs increased in cost on a yearly basis causing over budgeting. In fiscal year 1995, 163 programs among 15 federal agencies accounted for $20 billion in federal spending (U.S. General Accounting Office, 1995, p.6). Most federal agencies do not investigate whether their programs are really helping people find jobs and because of that a major overhaul of the system is needed (U.S. General Accounting Office, 1995, p.7). Labor’s share of the federal employment
training system is large, totaling about $6.9 billion for 37 programs (U.S. General Accounting Office, 1995, p.1).

**Workforce Investment Act**

WIA, signed into law by President Clinton in 1998, is the present federal training program that replaced JTPA. WIA was the first major overhaul of the nation’s workforce development system in more than 15 years (Berkeley Policy Associates, 2003, p.1-1).

Three key provisions in WIA opened the door to interagency collaboration and privatization in the new workforce investment system: (1) local boards were required to establish at least one one-stop center, a local focal point for the provision of all training and employment services and a new role under WIA; (2) local boards were required to implement an individual training account (ITA) system to allow customers to choose among a variety of approved training providers; and (3) local boards were prohibited from providing direct services, including the newly-defined employment supports of core and intensive services, direct training through the ITA system, and one-stop operation (Berkeley Policy Associates, 2003, p.1-1). The key objectives of this one-stop initiative were to create a customer driven system accountable for its outcomes and to make its core services available to all job seekers (U.S. General Accounting Office, 2000, p.3).

WIA required all 50 states to: (1) submit a five year strategic plan to the Department of Labor; (2) establish a state workforce investment board to assist the governor in developing statewide policies on a new workforce investment system; (3) establish local workforce investment areas, each with its own local workforce investment board to oversee the new system locally; (4) establish a comprehensive one-stop center in each local area; (5) negotiate with the Department of Labor on the state’s expected level of
performance on key measures (performance standards); (6) include cost allocation plans in memorandum of understanding between the local boards and WIA partners; (7) identify eligible training providers whose performance qualifies them to receive WIA funds; and (8) establish a new training system in which a qualified client can choose his/her own training from the list of eligible training providers and pay for it through a voucher called an individual training account (ITA) (U.S. General Accounting Office, 2000, p.5). As the literature has presented, the intent of WIA was to prevent the mistakes made by the previous federal training programs and focus more on the incumbent worker. Under WIA, states and the government have accountability measurements they are mandated to follow and produce outcomes of training programs to determine effectiveness.

Since the implementation of WIA, there have been strong recommendations from the GAO that Congress has not followed. In 2007 the GAO conducted a study on WIA and proposed the following findings to Congress: (1) improving the data on people who use the system requiring all job seekers who receive WIA funded services to be included in the performance management system which would improve understanding of who gets served and eliminate the ambiguity about who should be tracked and for how long; (2) improving funding stability if Congress chooses not to make broader funding formula changes, reducing the volatility in the dislocated worker allocation by requiring the use of hold harmless and stop gain provisions in the formula to help stabilize funding and better foster sound financial practices; (3) more accurately estimate states’ available funds by considering obligations as well as expenditures; (4) establishing suitable performance levels for states to achieve by developing and implementing a systematic approach for
adjusting expected performance to account for different populations and local economic conditions; (5) maximizing the likelihood that new initiatives will be adopted in an achievable time frame by using a collaborative approach that engages all key stakeholders; and (6) improving policymakers’ understanding of what employment and training programs achieve by conducting important program evaluations, including an impact study on WIA, and releasing those findings in a timely way (U.S. Government Accountability Office, 2007, pp.20-21).

Since implementation, WIA has made some significant improvements. States have had great success in promoting one-stop systems. One-stop systems were the creation of the government in the design stages of WIA. The purpose of one-stop systems was to provide businesses with easy access to an array of high-quality workforce services (Social Policy Research Associates, 2004, p. I-2). At the end of 2003, almost 2,000 one-stop centers were already established (Social Policy Research Associates, 2004, p. I-7). Businesses have been empowered in one-stop systems where they are helped in making training choices in utilizing individual training accounts (Social Policy Research Associates, 2004, I-3). Individual training accounts are voucher-like systems that enable individual workers and dislocated workers to select training programs that are appropriate for them (Social Policy Research Associates, 2004, p. I-3).

WIA has been promoting performance accountability with eligible training providers. Accountability was a huge issue with past acts due to accountability being non-existent and thus all three acts were eliminated. Training providers must submit an application for eligibility and meet performance criteria for every program in which providers are interested in working with companies (Social Policy Research Associates,
Another improvement has been greater involvement of workforce investment boards with companies. Workforce investment boards are increasing relationships with companies as the boards view companies as customers (Social Policy Research Associates, 2004, p. I-17). Some of the key initiatives that the workforce investment boards have adopted when working with companies as their customers are developing an understanding of the companies’ needs, using a single-point-of-contact when providing services with companies, making sure training services are effective, and going the extra mile to assist companies with their needs (Social Research Policy Associates, 2004, p. I-18).

All three acts have offered on-the-job training as customized training to employers and the workforce. Employer provision of on-the-job training, indicating employer investment in, and hence commitment to, employees whom the employer wishes to retain, is expected to positively influence both job satisfaction and economic benefits (Sawhney, Jantzen, & Hernstadt, 1982, p.247). To determine the impact of training in organizations is to ask the following questions as guidelines:

1. What part does training play in developing knowledge capital? What part should it play?
2. What is the impact of downsizing, rightsizing, and other widespread workforce actions on the organization’s knowledge capital?
3. How can the value of training, as a tool for knowledge capital development, be demonstrated?
How can training be most effectively used as a tool for helping an organization anticipate and manage change? (Rothwell & Kolb, 1999, pp.51-52).

The federal government has failed to look at transfer of learning in MDTA, CETA and JTPA programs. The government instead evaluated the programs on the demographics and eligibility requirements of workers. MDTA, CETA and JTPA were costly to administer and not completely effective. Both academics and practitioners have argued that too little attention is given to efforts to assess whether training participants actually transfer what they learn in the classroom to the actual work environment and what changes workers have made in organizational performance (Faerman & Ban, 1993, p.299). The federal government took a different approach to evaluation when WIA was created. Globalization was becoming more dominant in the country and looking at transfer of learning and impact of learning in the organization was critical. Also, the government and state spends millions of dollars each year in workforce training. The federal government alone spends an estimated $633 million each year and American industries spend up to $100 billion on training and development activities (Faerman & Ban, 1993, p.299). The federal government is interested in conducting ROI studies; however, it is very difficult to study some of the training that produces soft data. Soft data are those measures involving behaviors such as work habits, new skills, development, and satisfaction (Phillips & Phillips, 2005, p.102). It is difficult to quantify a behavior and convert the behavior to monetary value in order to produce the ROI. A lot of times behavioral based data are classified as intangibles. Intangible data is data that cannot be converted into monetary value (Phillips & Phillips, 2005, p.105). Organizations such as
the federal government have already explored the idea of conducting ROI studies; however, many have slowed down their studies due to time and data difficulties (Mitchell, 1994, p.201). Evaluators who have begun ROI studies for the government have quickly encountered problems concerning study design, measurement of training results, conflicting beliefs about the utility of training, and the tenacity needed to establish baseline data (Mitchell, 1994, p.201). This has been a struggle of the federal government and local state government in determining the best evaluative approach to use to yield the desired results. Determining whether the money is being well spent is difficult because there is minimal systematic evaluation of training programs that actually test the linkage between training and the changes in work behavior. Also, few attempts to study the linkage have failed to show positive changes in individual and organizational behavior (Faerman & Ban, 1993, p.299).

Transfer of Learning

Transfer of learning is the full application of new knowledge and skills to improve individual and group performance in an organization or community (Broad, 2005, p.87). Another definition would be the degree to which trainees apply to their jobs the knowledge, skills, behaviors, and attitudes they gained in training (Holton, Bates, Seyler, and Carvalho, 1997, p.96). Transfer of learning is the effective and continuing application, by trainees to their jobs, of the knowledge and skills gained in training both on and off the job (Broad & Newstrom, 1992, p.6). Transfer of learning is the basis of Donald Kirkpatrick’s third level of the four evaluation levels. Level three focuses on behavior, specifically looking at changes made in individual behaviors back on the job as
a result of the training (Faerman & Ban, 1993, p.300; Kirkpatrick & Kirkpatrick, 2006, p.52).

Why is transfer of learning a critical component in training and development? Billions of dollars are spent each year on training in an effort to increase productivity so businesses can stay competitive in the face of fierce global competition and a rapidly changing environment (Seyler, Holton, Bates, Burnett, and Carvalho, 1998, p.2). In 2003, publicly traded organizations with more than one hundred employees spent $62 billion on formal training (Holton & Naquin, 2005, p.258). Kirkpatrick and Kirkpatrick (2007) state three reasons for evaluating training at level three: (1) the acquisition of knowledge and skills translates to little actual business value unless the knowledge and skills are transferred to new on-the-job behaviors, (2) level three is the only way to tell if lack of success at level four is caused by ineffective training or lack of sufficient follow-up, and (3) it is extremely difficult to create a compelling chain of evidence leading from training to results without level three evaluation (pp.82-83).

It is critical for organizations and the federal and state governments to understand the meaning of transfer of learning and the effects before attempting to measure. There are many variables and barriers that have an effect on transfer of learning. One important variable to look at is the time factor of when an organization and their management team looks at transfer of learning. This is referred to as near and far transfer. According to Broad and Newstrom (1992) some organizations took action only after trainees returned to their jobs; others focused on the time trainees were in the classroom itself; a few others seemed to be thinking about transfer problems long before the training began (p.51). Near transfer is the extent to which individuals apply what was acquired in training to
situations very similar to those in which they were trained (Broad & Newstrom, 1992, p.52). Kim and Lee (2001) define near transfer as “requiring a close match between training and task content, a close match between the training and task outcomes, and emphasis on specific concepts and skills” (p.444). The success of near transfer depends heavily on the identical elements approach, in which the training experience closely approximates the task demands of the job itself (Broad & Newstrom, 1992, p.52). Far transfer, on the other hand, is the extent to which the trainees apply the training to novel or different situations from the ones in which they were trained (Broad & Newstrom, 1992, p.52). Also, far transfer requires an approximate match between training and task content, an approximate match between training and task outcomes, and the emphasis on general concepts and skills (Kim & Lee, 2001, p.444).

There are many variables working for and against transfer of learning. A transfer of learning study done by Broad and Newstrom (1992) showed 40% of the content of programs conducted was transferred back to the work environment immediately after training, about 25% was still being applied six months later, and 15% was still being used at the end of a year (p.7). Some of these variables affecting transfer are absence of reinforcement on the job; interference from the immediate environment; non-supportive organizational culture; impractical training; irrelevant training, trainees’ discomfort with change, poor training design and/or delivery; negative peer pressure; lack of practice opportunities; lack of support by supervisor; lack of equipment and technology; lack of time to plan application; and lack of necessary information (Broad & Newstrom, 1992, pp.34-35; Broad, 2005, p.129). James Mosel identified three necessary conditions to be in place for transfer of learning to occur: (1) training content must be applicable to the job
(2) the trainee must learn the content and (3) the trainee must be motivated to change job behavior to apply what was learned (Broad & Newstrom, 1992, p.8).

One way to strengthen transfer of learning with the workforce is to have a high degree of involvement with management. Broad and Newstrom refer to this as the transfer partnership. The transfer partnership is composed of managers (including executives, supervisors, team leaders, etc.) trainers, and trainees who have agreed to work together to support the full application of the training to the job (Broad & Newstrom, 1992, p.14).

Impact

Impact on training is about showing tangible results that more than pay for the cost of the training (Kirkpatrick & Kirkpatrick, 2006, p.69). Brinkerhoff & Apking (2001) define training impact as the transfer of knowledge and skills to on-the-job performance (p.1). Research indicates that impact of training is realized only for fifteen percent of all participants (Brinkerhoff & Apking, 2001, p.1). Determining the impact or results on an organization due to training is one of the greatest challenges to workplace learning professionals (Kirkpatrick & Kirkpatrick, 2006, p.69). Swanson (2005) agrees with Kirkpatrick: “I have heard many professionals say that they do not believe in evaluation or that evaluation is so difficult that they just cannot get it done in their fast-paced and complex organization” (p.17). Wang, Dou & Li (2002) discusses the limitation of evaluation conducted on training programs by organizations:

Human Resource Development intervention is a process much more complex than accounting because the former involves dynamic human behaviors. Benefits derived from human resource development
intervention often tangle with the impact of other organizational variables. Thus ROI measurement for human resource development programs requires identifying the human resource development benefits and separating them from other impacts if the ROI measurements are to be accurate (pp.203-204).

Measuring training impact to determine results will be beneficial to the organization and show value to the stakeholder. Training has multiple results some related to productivity, others to staff benefits and growth of human capital that will benefit different dimensions of the organization in different ways (Brinkerhoff, 1989, p.10). One benefit of investing in human capital that is demonstrated via in training impact is that the employees participating in the training are more motivated than before to believe that the company regards them highly because it sent them to training and invested in their development (Brinkerhoff, 1989, 10). The case for industrial training, whether on-the-job skills training or advanced seminars offered by universities, is grounded in the quest for increased productivity and increased profits (Swanson, Lewis, & Boyer, 1982, p.1). The goal of impact is to have an outcome where employees have increased productivity and knowledge and become part of a high skilled workforce. Results of increased productivity sought out by organizations are improved equipment/processes and/or gains in worker knowledge/skill (Swanson, Lewis, & Boyer, 1982, p.2). Swanson sees great benefit in evaluating training programs for either organizations or the federal government. Therefore, Swanson suggests two basic policies that organizations and the federal government should adopt when investing monies in the workforce: (1) no planned evaluation means no approval if there is no planned systematic
evaluation as part of a proposed program, the program should not be approved, and (2) no evaluation report means no continued approval if there is no execution of systematic evaluation and no reporting of the evaluation results, there should be no continued approval of the program (Swanson, 2005, p.20).

Four questions to be answered during the impact of evaluation are (1) what benefits have resulted from human resource development? (2) what is the value of each benefit (in dollar terms)? (3) how do these benefits compare to the costs of the human resource development program? and (4) to what extent has the initial human resource development need or problem been resolved (Brinkerhoff, 1987, p.164)? The question is what is the best method for conducting an evaluation impact study? As mentioned before, ROI could be an ideal measurement tool in some instances, but in this current study it is very difficult to conduct a ROI study and reach results that are valid, reliable, and objective. Also, in this case, conducting an ROI study would be very expensive as costs would be incurred for salaries of staff members, productivity time would be lost due to staff members’ focusing attention on the ROI study, and other resources, whether internal or external, might be needed. All of these expenses were taken into consideration by the state of Pennsylvania when the state considered an ROI study. In an ROI study, difficulty arises in isolating and showing the effects of formal training as a sole and independent variable (Mitchell, 1994, p.207). Many other variables could have an impact on training and need to be accounted for and isolated. Besides variables, other methodological flaws in an ROI study might be inappropriate evaluation design, monitoring the impact of training for a relatively short time, and using self-reports from trainees about the productivity gains from training (Bartel, 2000, pp.504-505).
Fitz-enz (1995) has revised the process of measurement seeking ROI based on four points process, outcome, impact, and value-added (p.36). For every improvement in a process there should be a better result; the result is the outcome; the difference between this outcome and the outcomes before the process improvement is the impact; and the dollar improvement represented by the impact is referred to as value-added (Fitz-enz, 1995, p.36). Given the difficulty mentioned with conducting quantitative evaluation studies, the measurement method used in the present study was based on Robert Brinkerhoff’s success case method. Brinkerhoff (2003) defines the success case method as follows:

The success case method (SCM) is designed to confront and leverage this reality. The partial success of a new initiative, no matter how small it is or how few are able to make it work is, nonetheless, success, and success is what we are aiming for. The SCM searches out and surfaces these successes, bringing them to light in persuasive and compelling stories so that they can be weighed (are they good enough?), provided as motivating and concrete examples to others, and learned from so that we have a better understanding of why things worked, and why they did not. With this knowledge, success can be built on and extended; faltering efforts can be changed or abandoned, and premising efforts can be noticed and nurtured (p.3).

Characteristics of SCM are utilized in the interview process in this study in order to determine the successes of the WEDnetPA training program with organizations, their leaders, and WEDnetPA partners.
Summary

As the economy becomes increasingly globalized and more work is being outsourced overseas, workforce education and development becomes highly regarded by the government and state training systems. More emphasis will need to be placed on the human capital of this country and workforce. The federal government and state government are responsible for evaluating appropriately the current training plans and programs in order for the workforce to obtain the necessary skills and knowledge needed to compete in a highly competitive global market. Training evaluation should be viewed in a context that is a part of effective training design and as a basis for improved organizational decision-making about human performance improvement and resource utilization (Burrow & Berardinelli, 2003, p.8). The government needs to conduct a more thorough evaluation and look at the impact of training programs on organizations in regard to transfer of learning and impact on organizational results. By the government conducting evaluation studies measuring impact and value of the training programs it funds, the workforce will have a competitive edge in the global market. Evaluation outcomes will help the government to continuously improve programs to provide a better product to organizations and the workforce.
CHAPTER 3
METHODOLOGY

The purpose of this study was to examine the impact of WEDnetPA training on organizations and the workforce. More specifically, the study aimed to examine in an evaluative framework how WEDnetPA funded training (1) impacted the knowledge and skill level of the workforce in selected companies in Pennsylvania; (2) was valued or measured by personnel at selected companies; and (3) influenced transfer of learning. For this purpose, the study’s design used the framework of qualitative methodology, especially guided by ontonology and positivism.

This chapter describes the methodological framework and provides details on research procedures. It includes explanations of six parts of the research process: a) the problem, b) research questions, c) methodological framework to design this study, d) data collection, e) data analysis, and f) strategies to enhance the quality.

Problem

The purpose of this study was to examine the impact of WEDnetPA funded training programs of thirty-nine companies. In addition, five WEDnetPA partners were interviewed as well as four leaders selected from the companies of the participants. The researcher looked at the specific training programs attended by employees of each of the thirty-nine companies. Little research exists on evaluating training programs funded with state dollars. In the past, the Pennsylvania Workforce Development System has been audited by the Auditor General and other levels at the state. According to the Auditor General, “we did not audit the specific results of the 40-plus separate program areas (for example, customized job training and industry specific training) that make up the
workforce development system to see whether each program was a success or failure, or even the specific costs associated with each, because the Pennsylvania Workforce Investment Board had no accurate, complete reporting or evaluation system in place at the time of the audit” (Casey, 2003, p.viii). The Auditor General found the following deficiencies with the performance of the board: (1) allowed a breakdown in coordination to occur at locally chartered sites that were established across the state in order to match employers with job seekers; (2) conducted ineffective quality reviews of chartered sites; (3) allowed some local sites to operate without charters and quality assurance reviews; (4) members of the board failed to fully coordinate their activities or cooperate with one another; (5) failed to ensure funding sources were streamlined and used effectively; and (6) neglected to develop strategies to assist local workforce investment boards in providing support services to job seekers and employers (Casey, 2003, pp.vi-vii).

The federal training programs MDTA, JTPA and WIA have been evaluated by the GAO. However, the federal government or the Pennsylvania government has not invested the time to conduct an actual evaluation or impact study of the training. Government officials have never evaluated transfer of learning or the impact on organizations. There is no documentation that the government has attempted to conduct a forecasted return on investment. The goal of forecasting is to make better decisions before investing in training programs, rather than seeking any benefits after the training has occurred and investments have been made (Swanson, 2001, p.27). Forecasting financial benefits of WEDnetPA funded training programs would be advantageous to the state because this information would influence the state’s investment decisions early on with companies (Swanson, 2001, p.27). In addition, the state would be viewed as a business partner,
proactive, and strategic with its external customers (Swanson, 2001, p.11). “Evaluation of job training in the United States has involved both monitoring gross outcomes through performance management systems and estimating of net program impacts through comparison group designs” (O’Leary, Straits, & Wandner, 2004, p.17). The outcomes the government has evaluated at JTPA are the entered employment rate, average wage at placement, cost per entered employment, and the entered employment rate for welfare recipients (O’Leary, Straits, & Wandner, 2004, p.26). The government has only evaluated broad general outcomes. It has not studied the impact of training programs by specifically looking at transfer of knowledge and benefits of the training to organizations that participated through the utilization of their dollars. The Department of Community and Economic Development and The Workforce Development and Continuing Education of WEDnetPA (Pennsylvania College of Technology) has shown an interest in studying the impact of WEDnetPA funded training on the workforce of Pennsylvania. One of the 2007 initiatives listed on the WEDnetPA website is to look at conducting return on investment studies of the training programs to determine effectiveness and impact. This is an impressive initiative for the state as the state is trying to avoid another ineffective training system such as MDTA, JTPA, and CETA.

Research Questions

This study will seek to answer the following research questions:

1. How has WEDnetPA funded training impacted the knowledge and skill level of the workforce in selected companies in Pennsylvania?

2. How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure WEDnetPA funded training?
3. How does the transfer of learning of WEDnetPA funded training take place in the selected companies?

Research Design

This study adopted the framework of qualitative methodology as the research focus to examine the impact of WEDnetPA funded training. Qualitative research has become a widely used methodology in social science research. This research design seeks to collect the interpretations given by organizational actors to aspects and events of organizational life, emphasizing the nuances that emerge from them (Strati, 2000, p.134). The specific qualitative paradigm used in this study is a positivist paradigm. Details regarding this paradigm are described in Appendix A.

Qualitative methodology permits the researcher to obtain information on participants’ behaviors, views, and culture among other things. The methodology allows the researcher to utilize specific tools, such as observations, interviews, and case studies, in order to explore and search for rich meaningful data. Qualitative research involves the studied use and collection of a variety of empirical strategies, such as case study, personal experience, life story, interviews, artifacts, cultural texts, observations that describe routine and problematic moments and meanings in individuals’ lives (Denzin & Lincoln, 2003, p.37). Qualitative research refers to research about persons’ lives, lived experiences, behaviors, emotions, and feelings, as well as organizational functioning, social movements, and cultural phenomena (Strauss & Corbin, 1998, p.11).

Qualitative research has many different characteristics that cause researchers to choose this methodology to conduct their study. Some of these characteristics are: (1) inductive reasoning, (2) describing complex levels of reality and gaining an
understanding of human experiences, (3) focusing on examining the full context and on face-to-face human interactions, (4) beginning with an idea that evolves during the research, (5) data analysis involves interpretive analysis of narrative data, and (6) seeking to find the unique, rather than the common, and having little interest in the generalizability of results (Farmer & Rojewski, 2001, pp.111-112; Marshall & Rossman, 1999, p.2).

Qualitative and quantitative research difference significantly. Qualitative research is based on a variety of paradigms based on the philosophy of science. Denzin and Lincoln (2003) mention five significant ways that qualitative research differs from quantitative research: (1) the use of positivism and postpositivism, (2) acceptance of postmodern sensibilities, (3) capturing of the individual’s point of view, (4) examination of the constraints of everyday life, and (5) secured, rich descriptions (pp.14-17). Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry (Denzin & Lincoln, 2003, p.13). Qualitative researchers, on the other hand, seek answers to questions that stress how social experience is created and given meaning (Denzin & Lincoln, 2003, p.13). Quantitative researchers seek measurements such as frequencies, quantities, correlations, and regressions among variables. Quantitative studies emphasize the measurement and analysis of causal relationships among variables, not processes (Denzin & Lincoln, 2003, p.13). Qualitative research was selected as the methodology for this study because of the methodology’s characteristics and the appropriateness of the methodology to the study’s purpose. This study examined the impact of WEDnetPA training in organizations and
their workforces. An appropriate approach to accomplish this was through interviewing individuals at the organizations in order to capture their experiences and feelings. Quantitative methodology would not be able to do justice in obtaining the rich qualitative results that are needed to address the research questions.

Data Collection

Sampling Strategies.

The sampling method utilized in this study was purposeful sampling, which “is selecting information-rich cases for studying an in-depth understanding” (Patton, 2002, p.230). Purposeful sampling can also be referred to as purposive or judgment sampling (Patton, 2002, p.230). In judgment sampling, the researcher decides the purpose the informants (or communities) will serve, and the researcher goes out to locate some informants (Patton, 2002, p.230). Several different sampling strategies fall under the purposeful sampling method. The sampling strategy used by this researcher was criterion sampling. The logic of criterion sampling is to review and study all cases that meet some predetermined criterion of importance (Patton, 2002, p.238). Participants selected for the sample had to meet specific criteria. The criteria will be discussed in the next section, “Participants.” The researcher and Dr. Yoder identified the criteria. Thomas Vendetti, Director of WEDnetPA, stakeholder of this project, approved the criteria. Mr. Vendetti and a number of the partners (Workforce and Economic Development Network) selected samples. Since this is a small study, the sample, included personnel from thirty-nine companies, five WEDnetPA partners, and four leaders from participant companies. The pilot study conducted in Fall 2007 consisted of personnel from eight companies. The sample size was identified based on reaching saturation. Saturation occurs when
collecting additional data seems counterproductive; the new data that is uncovered does not add significantly to the explanation (Strauss & Corbin, 1998, p.136).

**Participant Selection.**

Selected participants in the study were required to: 1) receive WEDnetPA funded training in 2006 and/or 2007; 2) be located in the workforce investment board regions of Lehigh Valley, Southeast, Southcentral, Central, and Southwest; 3) represent small, medium and large organizations; and 4) receive business operations and/or communication-teambuilding training that was classified as basic skills training in the WEDnetPA category (for the pilot study); and (5) be classified in the advanced materials and diversified manufacturing and lumber-paper-wood industry clusters (for the final study).

Advanced materials and diversified manufacturing includes all durable goods manufacturing industries and a number of non-durable goods industries and provides nearly half a million jobs with wages 20% higher than the statewide average (Center for Workforce Information and Analysis, 2004, p.4). The sub-categories of advanced materials and diversified manufacturing are chemicals, rubber, and plastics; electronics, metals and metal fabrication, printing, and vehicle and vehicle equipment. Lumber Wood and Paper incorporates industries that are related to the storage, transportation, and distribution of goods (Center for Workforce Information and Analysis, 2004, p.6). See Appendix B for NAICS identification number and targeted sub-clusters.

Five partners were randomly selected, one partner from each region. And leaders of organizations were randomly selected from the participant sample. Leaders are in the roles of president, vice president, plant manager, or operations manager of companies
selected to interview for the study. An example of a leader selected as an interviewee for this study was the vice president of operations. Small companies were defined as companies with 100 employees or less, medium sized companies are 100 to 499 employees and large companies are 500 employees or more (United States Department of Commerce News, 2002, p.2).

Companies across Pennsylvania are eligible for WEDnetPA training if they meet specific criteria. Thirty-three partners work with the local businesses to determine eligibility for training dollars and reimbursement of funds. The WEDnetPA partners represent educational institutions, most of which are community colleges and also four-year colleges, as well as universities. All thirty-three partners collectively and collaborately compose the workforce and economic development network (WEDnet). This study focused only on a sample from a small number of regions for quality of information and making the data more valuable.

**Description of Participants.**

Personnel from thirty-nine companies participated in the study. The majority of personnel interviewed held positions in human resources and training. A few participants worked in non-human resource discipline professions such as accounting. Key demographics of companies that participated appear in Table 4.

**Table 4**

*Demographics of Participants (N=39)*

<table>
<thead>
<tr>
<th>Size</th>
<th>Service</th>
<th>Longevity PA</th>
<th>Type of Training</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>Construction</td>
<td>32 years</td>
<td>Basic Skills/IT</td>
<td>Southcentral</td>
</tr>
<tr>
<td>Small</td>
<td>Manufacturing</td>
<td>Since 1990</td>
<td>Basic Skills/IT</td>
<td>Southeast</td>
</tr>
</tbody>
</table>

59
<table>
<thead>
<tr>
<th>Type</th>
<th>Since</th>
<th>Skills</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>1977</td>
<td>IT</td>
<td>Southeast</td>
</tr>
<tr>
<td>Small</td>
<td>2003</td>
<td>Safety, IT</td>
<td>Southeast</td>
</tr>
<tr>
<td>Small</td>
<td>1940</td>
<td>Safety, IT, Lean</td>
<td>Southeast</td>
</tr>
<tr>
<td>Small</td>
<td>1990</td>
<td>Lean, Supervisory</td>
<td>Southeast</td>
</tr>
<tr>
<td>Small</td>
<td>1964</td>
<td>Basic Skills/IT</td>
<td>Lehigh Valley</td>
</tr>
<tr>
<td>Small</td>
<td>1975</td>
<td>IT</td>
<td>Southwest</td>
</tr>
<tr>
<td>Small</td>
<td>1960s</td>
<td>Safety, Basic Skills</td>
<td>Southeast</td>
</tr>
<tr>
<td>Small</td>
<td>1893</td>
<td>Basic Skills/IT</td>
<td>Central</td>
</tr>
<tr>
<td>Small</td>
<td>26</td>
<td>Basic Skills, Safety, IT</td>
<td>Southcentral</td>
</tr>
<tr>
<td>Small</td>
<td>22</td>
<td>Lean, Safety</td>
<td>Lehigh Valley</td>
</tr>
<tr>
<td>Small</td>
<td>1978</td>
<td>Management Training</td>
<td>Southcentral</td>
</tr>
<tr>
<td>Small</td>
<td>30</td>
<td>Safety, Basic Skills</td>
<td>Central</td>
</tr>
<tr>
<td>Medium</td>
<td>1960s</td>
<td>Basic Skills</td>
<td>Lehigh Valley</td>
</tr>
<tr>
<td>Medium</td>
<td>37</td>
<td>Basic Skills</td>
<td>Southwest</td>
</tr>
<tr>
<td>Medium</td>
<td>30</td>
<td>Safety, Basic Skills</td>
<td>Southeast</td>
</tr>
<tr>
<td>Medium</td>
<td>50</td>
<td>Safety, Basic Skills</td>
<td>Central</td>
</tr>
<tr>
<td>Medium</td>
<td>50</td>
<td>Basic Skills</td>
<td>Southcentral</td>
</tr>
<tr>
<td>Medium</td>
<td>1987</td>
<td>IT</td>
<td>Southwest</td>
</tr>
<tr>
<td>Medium</td>
<td>1992</td>
<td>Basic Skills, Lean, Safety</td>
<td>Lehigh Valley</td>
</tr>
<tr>
<td>Medium</td>
<td>1985</td>
<td>Basic Skills, IT, Lean</td>
<td>Southeast</td>
</tr>
<tr>
<td>Medium</td>
<td>1998</td>
<td>Basic Skills</td>
<td>Southcentral</td>
</tr>
<tr>
<td>Medium</td>
<td>1986</td>
<td>Basic Skills, IT</td>
<td>Central</td>
</tr>
<tr>
<td>Medium</td>
<td>1969</td>
<td>Basic Skills, IT</td>
<td>Southeast</td>
</tr>
<tr>
<td>Medium</td>
<td>1946</td>
<td>Basic Skills</td>
<td>Lehigh Valley</td>
</tr>
<tr>
<td>Medium</td>
<td>1960s</td>
<td>Basic Skills</td>
<td>Lehigh Valley</td>
</tr>
<tr>
<td>Large</td>
<td>1967</td>
<td>Basic Skills, IT</td>
<td>Lehigh Valley</td>
</tr>
<tr>
<td>Large</td>
<td>1904</td>
<td>CJT</td>
<td>Southeast</td>
</tr>
<tr>
<td>Large</td>
<td>135</td>
<td>Basic Skills</td>
<td>Central</td>
</tr>
<tr>
<td>Large</td>
<td>1940</td>
<td>Safety, IT, Lean</td>
<td>Southcentral</td>
</tr>
<tr>
<td>Large</td>
<td>60</td>
<td>Basic Skills, IT</td>
<td>Southwest</td>
</tr>
</tbody>
</table>
Interviews.

Semi-structured interviews were conducted for the study. Semi-structured interviews involve the implementation of a number of predetermined questions and/or special topics where the questions are typically asked of each interviewee in a systematic and consistent order but allow the interviewees sufficient freedom to digress; that is, the interviewers are permitted to probe far beyond the answers to their prepared and standardized questions (Berg, 1989, p.17). Probing questions are a technique that interviewers use to elicit more complete stories from subjects (Berg, 1989, p.22). A total of nine guiding interview questions were asked to eight companies during the pilot study and the relationship of the interview questions to the research questions is illustrated in Table 5.

For the final study, a total of eight interview questions were asked of personnel at thirty-one companies and the relationship of the interview questions to the research questions is illustrated in Table 6. Also illustrated in Table 5 is the relationship of both the research questions and interview questions to the literature review. In addition, four questions were asked to five WEDnetPA partners as well as four leaders of companies. The relationship of the interview questions to the research questions is illustrated in Table 7 for WEDnetPA partners and Table 8 for leaders.
The interview guide focused on Kirkpatrick’s levels three and four of his four level evaluation model seeking data on transfer of learning and impact on the business. Impact refers to results and outcomes. The questions also sought other data regarding valuing and measuring training that has a relation to transfer of learning and organizational impact. The interview guide for the pilot study contained nine open-ended questions with probes (See Appendix C). The interview guide for the final study consisted of three separate instruments. Personnel from thirty-nine companies were asked eight questions with slight revisions from the nine pilot study questions (see Appendix D). The WEDnetPA leaders were asked four questions (see Appendix E), as were the partners (see Appendix F). The questions designed for the partners and leaders focused on value, transfer of learning, and impact. Participants were asked a few demographic questions in the beginning of the interview so that the researcher could gain familiarity with the organization. The questions consisted of title, job function at the organization, type of involvement with the WEDnetPA funded training, service the organization provides, number of employees, and the length of time the organization has been in Pennsylvania. The interview guides were reviewed by Dr. William Rothwell, Doctoral Chair, and Dr. Edgar Yoder, committee member with expertise in qualitative research methods. Also, the interview guides were reviewed by the stakeholder of this project, Thomas Vendetti, Statewide Director of WEDnetPA. The researcher sought out further expert review through the use of a human resource professional with industry based experience in training and development and two WEDnetPA partners.

The last interview question on the interview instrument addresses the participants’ overall experience with WEDnetPA funded program in order to determine the level of
satisfaction and/or dissatisfaction. On average, interviews ranged between a half hour to 45 minutes. Demographic questions were asked initially, before the questions from the interview instrument. The questions were strategically sequenced in this order to begin developing rapport with the participant and to begin the interview with simple informational-based questions. Interviews typically begin with mild, non-threatening questions concerning demographic matters as these questions tend to be easy for participants to answer and allow interviewers to develop rapport (Berg, 1989, pp.25-26). As the interview proceeds, more complex and sensitive questions may be asked of the participants (Berg, 1989, p.26). There were times during some of the interviews when additional questions had to be asked for clarification purposes. All interviews were recorded via a digital voice recorder, Sony ICD-MX20DR9 on the phone. All interviews were transcribed verbatim; repetitive words, such as “you know” and “umm”, were not included in transcription. When words were unintelligible, the word “inaudible” was inserted in the transcribed text.

Table 5

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Literature Review</th>
<th>Interview Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has WEDnetPA funded training impacted the knowledge of the workforce in selected companies in Pennsylvania?</td>
<td>Kirkpatrick’s level three</td>
<td>Describe to me in your opinion</td>
</tr>
<tr>
<td></td>
<td>transfer of learning back</td>
<td>the productivity results your</td>
</tr>
<tr>
<td></td>
<td>to the work area</td>
<td>organization received from WEDnetPA funded training.</td>
</tr>
<tr>
<td>How has WEDnetPA funded training impacted the skill level of the workforce in</td>
<td>Kirkpatrick’s level four</td>
<td>Please share with me specific organizational changes that have occurred as a result of WEDnetPA funded training.</td>
</tr>
</tbody>
</table>
selected companies in Pennsylvania?

How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure WEDnetPA funded training?

Human Capital Theory

Kirkpatrick’s level four

results or impact on the organization

Explain to me the value that you believe the leadership in your organization places on providing training opportunities to the workforce such as training funded through WEDnetPA. (Value)

Give me specific examples of how WEDnetPA funded training differs from other types of training you offer in the organization. (Value)

What specific measurements does the organization utilize in determining if transfer of learning occurred? (Measurement)

Give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their

How does the transfer of learning of WEDnetPA funded training take place in the selected companies?

Kirkpatrick’s level three transfer of learning

back to the work area

Give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their
Describe to me the action plan the organization has in place to encourage transfer of learning.

---

### Table 6

*The Relationship Among Research Questions, Literature Review, and Interview Questions Final Study*

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Literature Review</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has WEDnetPA funded training impacted the knowledge and skill in selected companies in Pennsylvania?</td>
<td>Kirkpatrick’s level three transfer of learning back to the work area</td>
<td>Please describe to me in your opinion the type of results or benefits your organization</td>
</tr>
<tr>
<td>Swanson Forecasted ROI</td>
<td>Brinkerhoff Success Case</td>
<td>received from WEDnetPA funded results or impact on the organization</td>
</tr>
<tr>
<td>WEDnetPA funded training</td>
<td>Human Capital Theory</td>
<td>Please share with me specific organizational changes that have occurred as a result of WEDnetPA funded training.</td>
</tr>
<tr>
<td>How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure WEDnetPA funded training?</td>
<td>Kirkpatrick’s level four results or impact on the organization</td>
<td>Please explain to me the value and importance that you believe the leadership in your organization places on providing training opportunities to the workforce such as training funded through WEDnetPA.</td>
</tr>
</tbody>
</table>
Please explain to me the process you go through to identify and select the appropriate training for your workforce.

How does the transfer of Kirkpatrick’s level three
learning of WEDnetPA transfer of learning
funded training take place back to the work area
in the selected companies? Holton Transfer of Learning
Broad & Newstrom Near & Far Transfer

Please give me specific measurements that the organization utilizes in determining if employees transferred skills and knowledge learned in the training back at the work site.

Please give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their work areas.

Please describe to me how leadership encourages transfer of learning with employees once they return from training.
### Table 7

**The Relationship Among Research Questions, Literature Review, and Interview Questions Partner Final Study**

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Literature Review</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has WEDnetPA funded training impacted the knowledge and skill in selected companies in Pennsylvania?</td>
<td>Kirkpatrick’s level three transfer of learning to the work area</td>
<td>Please describe to me the type of results or benefits that you see organizations receiving as the outcome of participating in WEDnetPA funded training.</td>
</tr>
<tr>
<td>Swanson Forecasted ROI</td>
<td></td>
<td>Please share with me specific organizational changes that organizations have made as a result of receiving WEDnetPA funded training.</td>
</tr>
<tr>
<td>Brinkerhoff Success Case Method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure funded training?</td>
<td>Kirkpatrick’s level four results or impact on the organization</td>
<td>Please explain to me the value and importance that the organization as a whole places on WEDnetPA funded training and the participants attending the training.</td>
</tr>
<tr>
<td>Swanson Forecasted ROI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brinkerhoff Success Case Method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How does the transfer of learning of WEDnetPA funded training take place in the selected companies?</td>
<td>Kirkpatrick’s level three transfer of learning back to the work area</td>
<td>Please explain to me the specific measurements and/or methods that organizations utilize to determine if transfer of learning and results were achieved at the work site.</td>
</tr>
<tr>
<td>Holton Transfer of Learning Broad &amp; Newstrom Far &amp; Near Transfer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 8

*The Relationship Among Research Questions, Literature Review, and Interview Questions Leader Final Study*

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Literature Review</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has WEDnetPA funded training impacted</td>
<td>Kirkpatrick’s level three</td>
<td>Please describe to me in your opinion the type of results or benefits your organization received</td>
</tr>
<tr>
<td>the knowledge and skill</td>
<td>transfer of learning back</td>
<td>benefits your organization received</td>
</tr>
<tr>
<td>level of the workforce</td>
<td>to the work area</td>
<td>benefits your organization received</td>
</tr>
<tr>
<td>in selected companies</td>
<td>Kirkpatrick’s level four</td>
<td>benefits your organization received</td>
</tr>
<tr>
<td>in Pennsylvania?</td>
<td>results or impact on the organization</td>
<td>benefits your organization received</td>
</tr>
<tr>
<td></td>
<td>Swanson Forecasted ROI</td>
<td>benefits your organization received</td>
</tr>
<tr>
<td></td>
<td>Brinkerhoff Success Case</td>
<td>benefits your organization received</td>
</tr>
<tr>
<td></td>
<td>Method</td>
<td>benefits your organization received</td>
</tr>
<tr>
<td></td>
<td></td>
<td>benefits your organization received</td>
</tr>
<tr>
<td>How do selected companies</td>
<td>Kirkpatrick’s level three</td>
<td>Please share with me specific organizational changes that your organization received as a result of participating WEDnetPA funded training.</td>
</tr>
<tr>
<td>in Pennsylvania that have received WEDnetPA funded</td>
<td>transfer of learning back</td>
<td>on providing training opportunities to your workforce such as training funded through WEDnetPA.</td>
</tr>
<tr>
<td>funded training place value</td>
<td>to the work area</td>
<td>on providing training opportunities to your workforce such as training funded through WEDnetPA.</td>
</tr>
<tr>
<td>on or measure</td>
<td>Kirkpatrick’s level four</td>
<td>on providing training opportunities to your workforce such as training funded through WEDnetPA.</td>
</tr>
<tr>
<td>WEDnetPA funded training?</td>
<td>results or impact on the organization</td>
<td>on providing training opportunities to your workforce such as training funded through WEDnetPA.</td>
</tr>
<tr>
<td></td>
<td>Swanson Forecasted ROI</td>
<td>on providing training opportunities to your workforce such as training funded through WEDnetPA.</td>
</tr>
<tr>
<td></td>
<td>Brinkerhoff Success Case</td>
<td>on providing training opportunities to your workforce such as training funded through WEDnetPA.</td>
</tr>
<tr>
<td></td>
<td>Method</td>
<td>on providing training opportunities to your workforce such as training funded through WEDnetPA.</td>
</tr>
<tr>
<td>How does the transfer of learning of WEDnetPA funded</td>
<td>Kirkpatrick’s level three</td>
<td>How does your organization measure employees’ transferring skills and knowledge learned in the work site?</td>
</tr>
<tr>
<td>funded training take place</td>
<td>transfer of learning back</td>
<td>measure employees’ transferring skills and knowledge learned in the work site?</td>
</tr>
<tr>
<td>in the selected companies?</td>
<td>back to the work area</td>
<td>measure employees’ transferring skills and knowledge learned in the work site?</td>
</tr>
<tr>
<td></td>
<td>Holton Transfer of Learning</td>
<td>measure employees’ transferring skills and knowledge learned in the work site?</td>
</tr>
<tr>
<td></td>
<td>Broad &amp; Newstrom Far</td>
<td>measure employees’ transferring skills and knowledge learned in the work site?</td>
</tr>
</tbody>
</table>

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Ethical Issues

Every participant signed an informed consent form giving his or her permission and acceptance to participate in the study. The informed consent form for the pilot study is in Appendix G and the informed consent form for the final study is in Appendix H (Participants), Appendix I (Leaders), and Appendix J (Partners). The informed consent was intended to protect the participants’ identities, narratives, and privacy. Before starting the interview, the researcher obtained a signed informed consent form from each participant. The informed consent form was approved by the University’s Research Regulation Office. Also, before the start of the interview, the researcher discussed the informed consent form with each participant to clarify any confusion or questions. The researcher re-clarified with participants before the interview the measures of ensuring the confidentiality of their responses and identities.

Data Analysis

Data analysis began by creating individual profiles of participants using transcribed interview narratives. The transcribed interviews were then coded using the methods of open coding and axial coding. After coding, themes were identified. An external reviewer verified the coding analysis, and this will be discussed.

Step I: Crafting a Profile.

The purpose of crafting a profile was to obtain some demographic information on each participant and to explore each participant’s lived experiences with WEDnetPA training. Demographic questions that were asked of each participant consisted of title and function in the company, service provided by the company, involvement in WEDnetPA
training, longevity of the company in Pennsylvania, and number of employees in the company. Also, by crafting profiles, a comparison can be made against each company in terms of experiences.

**Step 2: Labeling.**

Labeling involves coding the data by utilizing coding methods such as open coding and axial coding. Coding is the “analytic process through which data are fractured, conceptualized, and integrated to form theory” (Strauss & Corbin, 1998, p. 3). “Open coding is the analytic process through which concepts are identified and their properties and dimensions are discovered in the data” (Strauss & Corbin, 1998, p. 101). Open coding allows the researcher to break down the interview text into discrete parts, such as events, happenings, objects, and actions/interactions (Strauss & Corbin, 1998, p.102). The researcher looks for similarities and differences where he or she can group the data into categories. Categories may be broken down further into subcategories. Subcategories are concepts that pertain to a category, giving it further clarification and specification (Strauss & Corbin, 1998, p.101). The categories and subcategories are similar to buckets into which the coded data are dropped.

In axial coding, data are assembled through statements about the nature of relationships among the various categories and their subcategories (Strauss & Corbin, 1998, p.124). Strauss and Corbin (1998) state three different ways to conduct open coding: (1) line-by-line analysis, which involves close examination of data, phrase by phrase and sometimes word by word; (2) analysis of a whole sentence or paragraph where the researcher seeks to find out the major idea brought out in the sentence or paragraph; and (3) review of the entire document to find out what is happening and what
makes this document the same as, or different from, the previous documents that were coded. The main strategy used is line-by-line analysis; however, the other two strategies will be utilized as well on a smaller scale (pp.119-120).

Each transcript was read several times before being labeled. Then the transcribed data were broken down further into categories and given names. The researcher looked for similarities in the data to form categories. Codes were then classified under each category. Dr. Edgar Yoder, committee member reviewed labels, open codes, and axial codes. The NVivo 7.0 program was used to label and categorized the codes. This process followed the constant comparative method. The constant comparative method is “a research design for multi-data sources, which is similar to analytic induction in that the formal analysis begins early in the study and is nearly completed by the end of data collection” (Bogdan & Biklen, 2003, p.66). Bogdan & Biklen (2003) cite Glaser’s steps of the constant comparative method: (1) begin collecting data; (2) look for key issues, recurrent events, or activities in the data that become categories of focus; (3) collect data that provide many incidents of the categories of focus, with an eye for seeing the diversity of the dimensions under the categories; (4) write about the categories being explored, attempting to describe and account for all the incidents the analyst has in his or her data while continually searching for new incidents; (5) work with the data and emerging model to discover basic social processes and relationships; and (6) engage in sampling, coding, and writing as the analysis focuses on the core categories. In the constant comparative method, the process is ongoing and the analysis keeps revisiting for more data collection and coding (p.67).
Step 3: Making Connections.

In this step, axial coding occurred. Axial coding is the “process of relating categories to their subcategories and is termed ‘axial’ because coding occurs around the axis of a category, linking categories at the level of properties and dimensions” (Strauss & Corbin, 1998, p.123). Phenomena are first labeled when reading the transcriptions. The labels are then grouped into categories during open coding. However, in open coding the data is fractured and the grouping into categories is just the beginning of analyzing the data. Axial coding allows for a better alignment of data into categories and allows the data to be filtered down into subcategories if applicable. The researcher is looking for a deeper meaning of similarities and differences among the phenomena by taking it to the next level of axial coding. Appendix K displays the coding summary report from NVivo 7.0 that shows the study’s open codes, which are referred to as free nodes. Appendix L displays the node summary report from NVivo 7.0 that shows the study’s axial codes, which are referred to as tree nodes. Due to the lengthiness of both reports, only a few pages are presented from each report. Appendix M displays the source summary report from NVivo 7.0 for Company B. The source summary report presents the number of open codes for Company B. Appendix N displays a screen shot of free node coding for Company B.

Credibility and verification was established with open and axial codes as well as themes by the researcher utilizing an external reviewer. John Piccolo, Director of Continuing Education at The Pennsylvania State University, DuBois campus, was chosen as the external interviewer due to his indepth experience working with the WEDnetPA program. Piccolo provides the WEDnetPA program to companies in the DuBois area and
works directly with Pennsylvania College of Technology, one of the WEDnetPA partners and guarantor of the Guaranteed Free Training funds. Piccolo coded three separate interviews- one interview from a participant, one interview from a partner, and one interview from a leader. The end result was that the open and axial codes and themes he created were very similar to the codes and themes created by the researcher. Appendix O displays the coding summary written by Piccolo based on all three interviews.

Step 4: Generating Themes.

Once the data are coded into categories and subcategories, themes were generated for the phenomena. Themes are an implicit topic that organizes a group of repeating ideas (Auerbach & Silverstein, 2003, p.38). Deriving themes is an interpretive process whereby the researcher finds lived experience from the participant. The researcher looks for categories and subcategories that relate to another and have commonality. If this occurs, then a theme is formed. Dr. Edgar Yoder, committee member reviewed the themes generated by the researcher. Four themes were generated per research question. The themes will be introduced in chapter four, as will a description for each theme.

Enhancing Research Quality

Many checks and balances determine the quality of a research study. The checks and balances for a quantitative study are vastly different from those of qualitative study. Although there is no single list that is universally agreed upon by qualitative researchers of checks and balances, there are generally accepted approaches to assess the quality of qualitative research (Krafting, 1991; Morse, Barrett, Mayan, Olson, and Spiers, 2002; Silverman, 2006). Five methods to determine research quality in this study will be discussed. The five methods are credibility, transferability, dependability, confirmability,
and qualifications of the researcher. It is important for the researcher to prove trustworthiness of the data in the study. “Questions that arise around the topic of trustworthiness are how can an inquirer persuade his or her audiences (including self) that the findings of an inquiry are significant, worthy of action; what arguments can be mounted, what criteria invoked, what questions asked, that would be persuasive on this issue” (Lincoln & Guba, 1985, p. 290). According to Lincoln and Guba (1985), researchers can pose four questions to themselves when establishing trustworthiness: (1) how can one establish confidence in the “truth” of the findings of a particular inquiry for the subjects with which and the context in which the inquiry was carried out? (truth value); (2) how can one determine the extent to which the findings of a particular inquiry have applicability in other contexts or with other subjects? (applicability); (3) how can one determine whether the findings of an inquiry would be repeated if the inquiry were replicated with the same or similar subjects in the same or similar context? (consistency); and (4) how can one establish the degree to which the findings of an inquiry are determined by the subjects and conditions of the inquiry and not by the biases, motivations, interests, or perspectives of the inquirer? (neutrality) (p.290).

**Credibility.**

Credibility in a qualitative study relates to the accuracy and completeness with which the phenomenon of interest is identified and described (Lee, 1998, p.163). Marshall and Rossman believe that to determine credibility the researcher must render judgments about (1) whether the internal processes occurred as described; (2) whether the purported causal agents, social mechanisms, and psychological processes operated as predicted; and (3) whether these processes, agents, and mechanisms are as interconnected
as expected based on existing or evolving theory (Lee, 1998, pp.163-164). Several techniques can be utilized in order to determine the study’s credibility. For this study the techniques that were used are triangulation, peer debriefing, and member checking. Each technique will be briefly discussed.

Triangulation is the “display of multiple, refracted realities simultaneously” (Denzin & Lincoln, 2003, p.8). Another meaning is the “convergence of multiple sets of data to interpret a single problem” (Farmer & Rojewski, 2001, p.108). Denzin and Lincoln (2003) view triangulation as a “researcher deploying ‘different methods’ such as interviews, census data, and documents to ‘validate’ findings” (p.517). There are many different types of triangulation. Farmer and Rojewski (2001) cite Denzin and Lincoln’s four categories of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation (pp.115-116). This study used data triangulation. Data triangulation uses a variety of data sources in a study (Farmer & Rojewski, 2001, p.101). Data triangulation consists of three types: time, space, and person (Berg, 2004, p.5). The data sources consisted of thirty-nine different participants in thirty-nine different organizations, five WEDnetPA partners, and four leaders from four different organizations. A pilot study and final study were conducted in two different time frames. In addition to the interviews, data included the researcher’s journals. Data collection methods of qualitative research commonly include student journals or documents and interviews (Oliver-Hoyo & Allen, 2006, p.42). In doing research, the researcher must decide whether to use one data-collection strategy alone or to combine several strategies (data triangulation) (Berg, 2004, p.31).
Peer debriefing was utilized with two colleagues both of whom are students working on doctoral dissertations in the Workforce Education and Development doctoral program. Lincoln and Guba (1985) state four purposes served by peer debriefing: (1) the process helps to keep the inquirer “honest,” exposing him or her to searching questions by an experienced protagonist doing his or her best to play devil’s advocate; (2) the process provides an initial and searching opportunity to test working hypotheses that may be emerging in the inquirer’s mind; (3) it also provides the opportunity to develop and initially test the next steps in the emerging methodological design; and (4) finally, the process provides the inquirer an opportunity for catharsis, thereby clearing the mind of emotions and feelings that may be clouding good judgment or preventing emergence of sensible next steps (p.308).

Member checking occurred by sending the transcribed interviews to the participants for their review and input. By having the participants review the entire transcript, credibility is established and this allows for buy-in from the participants regarding their outlook on the study. Lincoln and Guba (1985) provide a list of purposes served by member checking: (1) it provides the opportunity to assess intentionally what is it that the respondent intended by acting in a certain way or providing certain information; (2) it gives the respondent an immediate opportunity to correct errors of fact and challenge what are perceived to be wrong interpretations; (3) it provides the respondent the opportunity to volunteer additional information; indeed, the act of “playing back” may stimulate the respondent to recall additional things that were not mentioned the first time around; (4) it puts the respondent on record as having made certain statements and having agreed to the correctness of the investigator’s recording of
them, thereby making it more difficult later for the respondent to claim misunderstanding or investigator error; (5) it provides the opportunity to summarize the first step to data analysis; and (6) it provides the respondent an opportunity to give an assessment of overall adequacy in addition to confirming individual data points (p.314). The member check form for the pilot study can be found in Appendix P and the member check form for the final study can be found in Appendix Q (Participants), Appendix R (Leaders), and Appendix S (Partners).

Transferability.

Transferability is the method of generalizability in qualitative research. There are two levels of transferability. One level is “where the researcher must make a judgment about the generalizability of the study’s results to the larger but same population” (Lee, 1998, p.164). In this study, the researcher could not determine if the results could be generalized to all regions in Pennsylvania that participate in WEDnetPA funded training. The sample size was five regions out of ten regions. This can be accomplished through thick descriptions. Thick descriptions occur when participants share their in-depth experiences with the interviewer. The second level is “where researchers must make a judgment about the generalizability of the study’s results to other populations and settings” (Lee, 1998, p. 164). The researcher could not determine if the results from this study can be applied to other states with a similar set up as Pennsylvania and WEDnetPA. This would require a more in-depth research study with a different focus.

Dependability.

The researcher established the validity and reliability of the study. This can be done by a technique coined by Guba as “step-wise replication.” In this process an audit
trail and an inquiry audit can be completed to audit the study to prove validity and reliability. Memos are included as part of the audit trail. Strauss and Corbin (1998) define memos as written records of analysis that may vary in type and form (p.217). Memos help the analyst to gain analytical distance from materials and force the analyst to move from working with data to conceptualizing (Strauss & Corbin, 1998, p.218). The type of memos used in this study was code notes. Writing notes for codes helped organize the codes by providing a description of the code. This is a great resource when the analyst is trying to form axial codes or determine the categories of the open codes (Strauss & Corbin, 1998, p.230). The code notes were logged and tracked in NVivo 7.0. Appendix T displays an example of a code note for Company B. The audit is typically conducted by two separate teams. In regard to dependability, the auditor reviews inquirer bias, making certain all data has been accounted for and all reasonable areas explored (Lincoln & Guba, 1985, pp.316-318).

**Confirmability.**

Confirmability refers to the objectivity of the study. The main purpose is to determine if the findings and procedures of the study were fair and unbiased. The researcher must limit any biases. An audit is typically conducted to determine confirmability. In this study, the auditor sought information from six sources. These six sources are referred to as the Halpern audit trail categories: (1) raw data- electronically recorded materials, written field notes, unobtrusive measures such as documents and records and physical traces, and survey results; (2) data reduction and analysis products- write ups of field notes, summaries of condensed notes, unitized information, quantitative summaries, theoretical notes; (3) data reconstruction and synthesis products- structure of
categories (themes, definitions, and relationships), findings and conclusions (interpretations and inferences), final report with connections to the existing literature and an integration of concepts, relationships, and interpretations; (4) process notes-methodological notes (procedures, designs, strategies, rationale), trustworthiness notes (relating to credibility, dependability, and confirmability), and audit trail notes; (5) materials relating to intentions and dispositions- inquiry proposal, personal notes (reflexive notes) and expectations (predictions and intentions); and (6) instrument development information- pilot forms and preliminary schedules, observation formats, surveys (Lincoln & Guba, 1985, pp.319-320).

Qualifications of the Researcher.

The researcher’s qualifications consist of educational training and work experience in the fields of human resources and workforce education and development. Additionally, the researcher is an experienced interviewer and was a behavioralist as a social worker. Due to the nature of this study, the researcher was able to apply her qualifications to establish instant rapport with the participants and during data analysis. Reflexivity played a role in enhancing the study by means of the researcher undertaking an ongoing examination of what she knows and how she knows it to engage in conversation about the experience of the participant while simultaneously living in the moment (Patton, 2002, pp.64-65). “Reflexivity reminds the qualitative inquirer to be attentive to and conscious of the cultural, political, social, linguistic, and ideological origins of one’s own perspective and voices of those one interviews and those to whom one reports” (Patton, 2002, p.65). The educational training this researcher received in regard to research methods was successful participation in Dr. Barbara Gray’s qualitative
research methods course in the Smeal College of Business in Fall 2007 semester. In addition, this researcher successfully participated in Dr. Yoder’s data collection and instrumentation course and basic applied data course. In the data collection and instrumentation course, this researcher learned how to design the qualitative instrument for this study and how to utilize the NVivo 7.0 program. In the summer 2008 semester, this researcher attended an NVivo 7.0 seminar that focused on analysis of qualitative information to gain additional knowledge.

A summary of all five methods is presented in Table 9.

Table 9

*Indicators and Strategies Used to Enhance the Quality of the Study*

<table>
<thead>
<tr>
<th>Indicators of Quality</th>
<th>Descriptions</th>
<th>Strategies Used In This Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credibility</td>
<td>Accuracy and completeness of the participants’ experiences</td>
<td>Triangulation: Convergence of multiple sets of data (journal notes and different participants) Peer debriefing: Working with other doctoral students to obtain feedback on study Member checking: Participants review transcribed interview and provide input</td>
</tr>
<tr>
<td>Transferability</td>
<td>Generalizability in research-Findings applicable to a new situation</td>
<td>Participants share indepth experiences</td>
</tr>
<tr>
<td>Dependability</td>
<td>Establishing reliability and</td>
<td>Audit trail:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
validity of study Accurate transcripts
Memos

Confirmability Findings and procedures of study were fair and unbiased -Raw data- electronically recorded material
-Summary of various notes
-Structure of categories and relation to literature
-Process notes (trustworthiness, methodological, and audit notes

Qualifications of the researcher Reflexivity

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**Summary**

This chapter explained the methodology used in this study. The rationale for using qualitative research design was discussed. Then followed detailed explanations regarding: a) the problem, b) research questions, c) methodological framework to used design this study, d) data collection, e) data analysis, and f) strategies to enhance the quality. The next chapter will present the results of the study.
CHAPTER 4
STUDY RESULTS

This chapter presents the results of the study. The results for each research question follow with a description of the issues and themes that emerged from an analysis of the interview data. Finally, a summary of the results is presented.

The following section presents the findings of the study. All citations are verbatim based on the interviews with participants, partners, and leaders. To ensure all participants’ privacy and confidentiality, each company, partner, and leader were coded randomly with a letter from the alphabet, for example, Company A, Partner B, and Leader C. Therefore, names of companies, leaders, and partners cannot be identified, and locations will not be determined. In order to keep anonymity of names xxxx is shown where names are identified.

Research Findings

Training Impact on Workforce Knowledge/Skill Level

RQ1. How has WEDnetPA funded training impacted the knowledge/skill level of the workforce in selected companies in Pennsylvania?

There were various responses from participants explaining how WEDnetPA funded training impacted the workforce knowledge/skill level. By comparing properties of codes and categories, four main themes were generated. Table 10 summarizes the four main themes with a brief description of each theme. Each theme is clarified by providing participants’ narratives and interpretations via verbatim text regarding how participants created meaning from their experiences in terms of how
WEDnetPA funded training impacted the knowledge and skill level of the workforce in their organization.

Table 10
Summary of Main Themes Emerged from the Impact of WEDnetPA Funded Training

<table>
<thead>
<tr>
<th>Themes</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes Within the Organization</td>
<td>Changes that organizations developed and instituted due to employees attending WEDnetPA funded training. Changes meaning procedural changes and new program development.</td>
</tr>
<tr>
<td>Outcomes and Manufacturing Operations</td>
<td>As a result of organizations participating in WEDnetPA funded training there were many improvements in operations and personnel.</td>
</tr>
<tr>
<td>WEDnetPA Provides Benefits</td>
<td>WEDnetPA funded training provided organizations and the workforce many different benefits such as improved workforce, awareness of jobs, and increased training opportunities.</td>
</tr>
<tr>
<td>Organizations Receive Training Variety</td>
<td>Organizations took advantage of the free funding for training and received numerous training courses under basic, IT, and customized job training.</td>
</tr>
</tbody>
</table>

**Theme #1: Changes Within the Organization**

A construction company drafted blueprints and sold the blueprints to customers who were building or remodeling homes. Before the company received WEDnetPA funds for blueprint training, the company’s draftsmen made many errors in drafting the blueprints and sending the prints out for production.

Company C: Not so much organizational changes other than we started working on actual check sheet to make sure our plans are done the same way each time because we have two different drafts people and each one would do them slightly different so we put a check sheet in to make sure they are all laid out the same.

The company designed a blueprint check sheet that it now uses as a quality control method before its final blueprints are shipped to the customer. This same company
also put a review process in place to review the blueprint documents in addition to the check sheet.

Company C: Actually it’s another procedural change that I forgot about. Thanks for reminding me. We actually changed it because the sales and design team were putting them (blueprints) out but they (blueprints) were never being reviewed by the construction manager before they (blueprints) went out. So consequently, they (blueprints) would get to the production side and its what about this and what about this so now we are having those questions posed up front.

The owner of the company benefited from the blueprint training because the training taught the employees that a review process should be in place before the blueprints are sent out to the customers. The employees came back from the training and shared this information with the owner of the company as the employees felt that a lack of review process in the company was a costly gap. Therefore, the organizational change was instituted by the owner and management to include a review process and blueprint check sheet for the draftsmen.

Some companies received lean manufacturing training and the training, particularly the 5S part of lean helped companies with streamlining their processes or developing new processes to make employees more knowledgeable and organized.

Below are reflections from two different companies.

Company M: We did through the training implement what is called the 5S program safety program. So procedures were definitely changed through that (5S program).

Company GG: And they (standardized training) are tied to things that people learn like when we did the 5S we have done several kaizens and we still continue to do them (kaizens) every couple of years. Overall organization in the work areas so now we have included 5S training as our own. We do an orientation we use to do orientation and now we have standard orientation training includes the 5S, GMP.

Company M changed its safety procedures through 5S lean knowledge and skills learned in the WEDnetPA funded training. This company saw a need to make its
safety program more efficient and practical. Company GG has developed a formal orientation program for all new employees, including 5S lean training to continue improvements through kaizen events. Company GG felt it was important to make 5S Lean training a part of its organization as it sees benefits from the Lean processes.

As a result of WEDnetPA funded training, several companies made significant organizational changes, such as developing and implementing new programs as part of the culture, due to identifying gaps through training. Three different companies developed and implemented programs such as a hazmat team, Illustrator program, and apprenticeship program.

Company O: I use WEDnet funding and we had a class through xxxx that is our partner on hazardous material spills and spill response. Because as we are growing as a company and we are considered a small hazardous waste generator I needed training to get a team in place in case something happens and because of having that (hazardous materials spills and spill response) class like I said we developed a spill response team which was organizational change and created a team to handle a response.

Company V: The only thing I could say is with Illustrator program and with that we changed one procedure that we did not use a subcontracting company so it is better….we are better able to meet our customer’s needs and this was a cost effective change to make any kind of product customizing it to our customer’s needs knowing how to do that and always having to rely on an outside company.

Company CC: Well because of the WEDnet funding that was available to us we did start the apprenticeship program because we had that funding available to send these people to classes and it was a good match with us with xxxx because we also send them (employees) to xxxx you know you don’t have unlimited funding and you have so much per employee per year but the classes aren’t real expensive so you might be able to get two or three classes for what you have been given for one year in both categories in technical and basic skills and then it is given xxxx the opportunity to say to us oh we have some grant money so last year not only did we get the WEDnet but we were able to send them (employees) to some classes that was almost fully paid for by a grant just because we were exposed to it.
Due to WEDnetPA funding, company V implemented the Illustrator program and save money by completing custom print jobs in-house instead of paying a third-party vendor. Company O developed and implemented a hazmat team in order to stay compliant with regulatory laws; company CC utilized additional WEDnetPA funds to send employees to classes for its newly developed apprenticeship program.

**Theme #2: Outcomes and Manufacturing Operations (Organization and Workforce)**

A few companies saved money by employees performing the work in-house instead of sending work out to third-party vendors. Work could be handled in-house due to employees acquiring the necessary skills and knowledge through WEDnetPA funded training. Also, job security increased.

Company EE: But to be able to have someone that is an assembler to go through machining classes and CNC programming and now they (employees) are fixing clitches in the programs you don’t have to bother a process engineer or the supervisor is time and money saved. It is it really is and then in turn we don’t have to hire as many process engineers because one day this person could be a process engineer so it is saving time and money.

Company L: I believe in some cases that the training the maintenance personnel have had it has enabled us to do more repairs and installation in house rather than spending the money on outside sources.

Company N: What I do see is the training is repairs and projects that were previously contracted out because we didn’t have the tools and/or skills to them (repairs) in house are now staying in house and from doing the repairs and projects in house with our own people we are also significantly cutting our costs and we are keeping jobs here in Pennsylvania.

In the case of company EE, the company will save money and time by training the machine operators to troubleshoot issues with the equipment rather than rely on the engineers. By doing the work within the company, company EE will save a lot of money that could be directed toward other much needed uses.
Another outcome that companies experienced through WEDnetPA funded training was increased productivity and decreased production costs. Typically the goal of most manufacturing plants is to decrease costs as much as possible and increase the productivity of operators. Two different WEDnetPA partners that were interviewed saw decreased costs and increased productivity as the results gained through the training.

Partner OO: As far as results achieved for this question we see that production is up and costs are down. That (production up and costs down) is a visible result.

Partner NN: With the management people are seeing better productivity, less scrap rate, you know the scrap rate goes down.

Managers their thing is that productivity has increased, the scrap rate is down, the employees are doing their (employees) job because that is what they (employees) are suppose to do actually understand you know they (employees) have been trained on how to trouble shoot and they (employees) understand what they (employees) are doing as opposed to just doing it. They (employees) are more vested in the company because they (employees) understand what is going on within the company and why they (employees) are doing their job effectively and how it (efficiency and accuracy) affects the company’s bottom line.

Two partners out of the five partners interviewed saw increased productivity and decreased costs, which is a target goal of WEDnetPA funded training. This was the perception of the two partners. However, it was discovered through the interviews that not every partner obtained feedback from companies on the results received post-training. The two partners who did obtain such feedback were very much linked to the companies that they worked with and they were service-oriented with their companies.

A third outcome that was seen as a pattern was employee promotions due to taking advantage of the WEDnetPA funded training that the companies provided. The employees learned higher-level skills and gained knowledge. There were advancements to supervisory positions and higher-level operator positions.
Company FF: Well we did have some promotions due to some additional higher levels skills sets so for example in our supervisors that went into manager roles.

Company K: Some of our team members have been advanced to team leaders because of the training as well. That is a fair statement.

Company X: Okay, well we had sent some people for supervisory certification training so that resulted in them becoming supervisors.

Company N: We also did some supervisory leadership training and our supervisory staff enhanced the leadership skills and the hourly people that were present in that course after taking that course were eventually promoted to supervisors because they (employees) had the skills.

One company gave a specific example of an operator in the plant who took advantage of the free training that the company offered him to learn computer-based skills. The employee, who had a talent for computer work, took the courses, and the company promoted the employee from the production floor into an information technology (IT) computer position. The operator essentially was promoted twice into an entry level IT position and then a higher level IT position.

Company K: One of the results one of the big things was one of our Fad shop team leaders has been promoted to computer support technician. He (promoted employee) kind of tinkered with things on the outside at home and applied for the computer support technician and a lot of the WEDnet money that was given to him (promoted employee) was used to advance himself and he (promoted employee) used it (WEDnetPA funding) for the IT side of it (WEDnetPA funding) and he (promoted employee) has since been promoted to our network administrator. He (promoted employee) really acquired a lot of the technical knowledge with the help of WEDnet.

Participants felt that when employees were promoted due to learning higher-level skills through WEDnetPA funded training, the employees had an increased level of self-confidence and motivation to be more productive in the company. In addition, the participants’ voices demonstrated an inflection of pride when sharing the stories of employee promotions. Promotions from within- as opposed to hiring external candidates
for positions- also send a strong message to the employees that the company cares about their development.

**Theme #3: WEDnetPA Provides Benefits for the Organization and Workforce**

Companies received several benefits from WEDnetPA funded training. One benefit was that the training improved the workforce. The workforce was improved with regard to obtaining new skill sets.

Company O: I think we have a more educated and work ready force employees. some basic blueprinting, some computer training along with some indepth classes they (workforce) are more able to complete task at hand in their (workforce) job being assembly, computer work, accounting, HR whatever the case maybe. I feel the more educated they (workforce) can get the better they (workforce) can do their (workforce) jobs. The more efficient we are as a company.

Company GG: The people who participated in the training they (employees) gained some confidence, they (employees) gained some skills, they (employees) actually came away more prepared to work as a team player because a lot of it is not in one on one and a lot of it is in groups. And we have seen a general improvement in overall skills company wide.

Both companies benefited by the workforce being more knowledgeable in their skill levels. The first company believes that the more skills the workforce has gained the more efficient and profitable the organization is. Below, an interviewed company leader commented on the benefits that the organization received.

Leader VV: I believe we enhance the skills of our operators which is the basic goal of the training. My responsibility is my official title is production manager and like the plant manager I am responsible for production flow, health and safety and things like that. So I get to reap the benefits of my employees having more skills.

Another benefit that follows is that employees have more awareness of their jobs due to WEDnetPA funded training. For this particular company the awareness was safety related. In any manufacturing environment, safety is crucial because employees work around various types of equipment and other hazards.
Company BB: Just overall employee awareness. With the employees we did a lot of safety training and line training and a little bit of product training to bring up the awareness they (employees) have on the production lines. It is not a specific employee but they (employees) come back now with more suggestions how things can be done more efficiently or safer or I guess efficient is the word you know less time. Just by the movement of materials if we put this box here then I don’t have to grab it there or if this table was a little higher or a little lower I wouldn’t have to lift it I could slide it and this would make this work better and more efficient and more ergonomic and less injuries. Stuff like that I would say of the employees just being more aware of their surroundings and allowed them (employees) to make more suggestions now that we listen to not that we didn’t listen to before or making them (suggestions) before.

In this company the Vice President of Human Resources was pleased that employees have learned to work more safely and that employees are thinking in an ergonomic manner. This company has a lot of ergonomic-type injuries, and the safety training that the employees received has reduced the amount of these injuries. The participant was unable to share the exact reduction percentage because he did not have this information in his possession. In another company employees were now more aware of their job and more self-confident in their work due to training.

Company J: Well again I think they (employees) feel more confident to what they (employees) are suppose to know. These folks most of these folks have been in industry before they (employees) worked here ten years or more. And so everybody is always nervous so I think it improved their (employees) feeling comfortable that they (employees) understood things. I think that is the biggest thing.

Employee appreciation was a benefit experienced by a few companies and a WEDnetPA partner. Employees felt that the company cared about their development and future by offering them the opportunity for free training through WEDnetPA. Employees had the opportunity for advancement within the company. Therefore, by offering employees the opportunity of WEDnetPA training, company leadership and management
found that employees generally were more motivated to do a high quality job and go the extra mile for the company.

Partner QQ: I think from an employees’ perspective is that they (employees) are getting training bottom line and I think starting to feel for some that the organization is starting to make an investment in them (employees) through training so I think has the potential to impact the retention in the organization and all those good things.

Company R: For the employees themselves is having that opportunity that the company believes in their (employees) training and development and I think that is a major accomplishment that came out of the WEDnet funded training which the company had an extra opportunity from the state provided funds.

Company LL: Some things are important to employees. Those (employees) that value development and learning feels fortunate to have a company that allows them (employees) to do that.

Getting involved in lean manufacturing was a huge benefit for some companies because they learned to streamline their processes through kaizen events and saved money. For the companies that introduced lean to their workforce and culture, the workforce became vested in the idea and soon adopted the practices into their work areas.

Company W: As far as our continuous improvement objectives relies heavily on the implementation on lean tools and the development of lean thinking and a lot of that has to do with culture change and through some of the training that we have received that we have been able to put into place here at the facility we are beginning to develop a culture change in the organization.

Company X: Well we were all trained on what lean manufacturing process was and then we were able to perform several kaizan events which streamlined several of our processes. And yes the benefits were saving time we didn’t cut any people but we managed to cut some extra steps and rearranging of equipment and that was very beneficial to the company.

Below is the perspective of the leader interviewed from company X who shares the same view on lean manufacturing. The leader agrees that lean has taught the organization to streamline processes and that the favorable outcome has been saving money and time.
Leader UU: Because one of the bigger pieces where we have seen improvement or processes that have really been worked on is been in the area of lean manufacturing. So through that (lean) training we are able to run these little systems on our own with employees that are currently have hired in the past and have added this (lean) kind of responsibility to their plate most notably the scheduling the production scheduling has taken a huge turn through that kaizen system and is one of our most successful pieces that we had run on our own and has been a huge benefit to us that we started probably been a year probably during the '07 calendar year that we started the process (lean). So that would be one as far as truly effective programs that had come out of that training specifically was the whole production scheduling which was you know we are a manufacturer which if you can’t get that you are in big trouble.

Because of free training dollars from the WEDnetPA program, companies were able to increase their training opportunities. Some companies, typically the smaller ones, did not do much training before WEDnetPA because they could not afford the cost. The interviewer was able to capture this benefit from the perspective of a WEDnetPA partner and company.

Partner PP: I guess I can say this, I have seen some companies that probably…… when we first started working with them (companies) didn’t do training as much and as a result of WEDnet I think they (companies) do training more apart of what they do. I think they (companies) have seen the benefits of training and I think WEDnet helped them (companies) to see that. Because WEDnet funding enabled them (companies) to do more training which helped growth and I think they (companies) saw more tangible benefits and they (companies) continue to provide training to their employees.

Company I: It is nice to be able to take advantage of training that we might not have considered before because of the reimbursement factor that we have.

Companies also have realized the benefits of training on the workforce and organization due to WEDnetPA funds. Again, these companies typically did not do training previously. Once companies received the benefits of WEDnetPA funded training, the companies were more apt to conduct training because they witnessed the benefits on the workforce such as increased competitiveness.
Partner PP: The reason I could say that was even after they (companies) were not training they (companies) would have to sit out a year in order to regain eligibility. They (companies) will come back and do some initial training because they (companies) didn’t realize the importance that training plays in their (companies) business and it was much more training than they (companies) had provided prior to every being funded by WEDnetPA.

Partner QQ: How they (company) can constructively build that as part of their (company) culture which is really nice to see because a lot of the smaller ones (companies) don’t even really think about it (WEDnetPA). And it (WEDnetPA) allows management to look at the return of even thinking about doing the training many of these smaller companies wouldn’t be training at all if they (smaller companies) didn’t have WEDnet. So that is an obvious impact I think from their (companies) perspective.

Company H: I am glad that they did it (WEDnetPA) again this year and I hope they (state) do it (WEDnetPA) again every year. It definitely helped my whole company realize about training and improving technology.

In keeping up with globalization, companies realize that the workforce needs more and more specialized training. There were companies that had very specialized manufacturing operations and the workforce needed to be trained on-the-job to learn the processes and procedures. Companies had a difficult time recruiting candidates with these specialized skills so the companies relied on WEDnetPA funds to subsidize some of the costs.

Company P: And you are right and fortunately for us the people that work here are highly skilled. You just can’t go out on the street and casually find these people. They go through an apprenticeship program many of them (employees). They (employees) have had 6,000 hours or so of an apprenticeship program that has been sanctioned through the Commonwealth of Pennsylvania with journeyman’s papers. So they (employees) are highly skilled people.

Company R: We have welding and they (welders) are certified. They (welders) have to do through a certification program from a machine operator to a polisher. So it is pretty specialized there is specialized training involved.
Theme #4: Organizations Receive Training Variety

Companies that participated in the study received a variety of different courses under the basic and IT categories from WEDnetPA. In addition to customized job training programs companies received courses such as lean manufacturing, computer-based courses, math, communications, teambuilding, supervisory, leadership, safety, quality, auto CAD, customer service, and blueprint. These courses have given companies and their employees the opportunities to gain the needed skills and knowledge.

Company B: Time management, business writing, project management, practices of successful leaders, valuing people’s differences, coaching, performance, working with teams, presentation skills, customer service, stress management, negotiation skills, Microsoft Project, Visio, Microsoft Access.

Company Y: We did use xxxx as an example and we did some lean manufacturing, lean office, APPIC and some things that they (xxxx) were involved in and we used some other providers for some other training like xxxx we used quite a bit times for Microsoft Office and things like that so we did a lot of different types of training under this umbrella. We did injection molding training, we did welding class, maintenance person, we did supervisory training through the consultants that we used in terms of HR management and employee testing so they (xxxx) are very flexible in terms of providers.

Some companies used the WEDnetPA funds to cover the cost of training conducted in-house. One such company was an insurance company that conducted almost all of its training in-house because the training was specialized to their insurance operations. The training was also involved and the WEDnetPA funds helped defray the cost for new employees who were hired and existing employees who needed refresher training. The company had on-site trainers who were assigned to facilitate certain training. For example, the claims manager is responsible for facilitating claims adjudication training.

Company F: Our facilitators are in house. So for example, the person who delivers our policy knowledge training has been with the company over 30 years so she definitely has the industry related knowledge as well as internal. The person that does the….we have two in house trainers that do the customer
service training the magic customer service training, one is the manager of employee development and has been with the company a long time and has been certified to deliver it and the other one is our training consultant who began in our claims department and has now been a training consultant for the past five years I believe. And she too was certified to deliver the training. The only thing we actually put through WEDnetPA was the actual employee training of the customer service training.

Valuing/Measuring WEDnetPA Training

RQ2. How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure WEDnetPA funded training?

There were various responses from participants explaining how selected companies in Pennsylvania receiving WEDnetPA funds place value on or measure these funds. By comparing the properties of codes and categories, four main themes were identified. Table 11 is a summary table presenting the four themes with a brief description of each theme. Each theme is discussed by providing participants’ narratives and interpretations via verbatim text regarding how participants created meaning from their experiences in terms of how selected companies receiving WEDnetPA funds place value on or measure these funds.
Table 11
Summary of Main Themes Emerged from Selected Companies Receiving WEDnetPA Funds Placing Value on or Measure Funds

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Value</td>
<td>Value based on perceptions of general workforce, leadership, and management. Value in regard to general training and WEDnetPA funded training.</td>
</tr>
<tr>
<td>Measurement Methods</td>
<td>Companies measurement techniques; why companies did or did not perform measurements; what did companies measure and how often; asking partners if they encouraged companies to conduct measurements of training; obtaining companies views on measurement and evaluation.</td>
</tr>
<tr>
<td>WEDnetPA Funded Training Program</td>
<td>Companies opinions and perspectives on the WEDnetPA funded program overall; the positive and negative aspects of the program; what was found to be helpful and not; what did the companies gain from the program.</td>
</tr>
<tr>
<td>Funding Supports Training Needs</td>
<td>WEDnetPA funded program helps companies meet financial needs as well as training needs. Companies explain and discuss their own financial needs and training needs.</td>
</tr>
</tbody>
</table>

Theme #1: Overall Value

In general, the workforce valued training whether it was company funded or funded through WEDnetPA. The members of the workforce realize that the more training they receive the more money they could potentially make for themselves and their families and that this training also increases the profitability of the company.

Company O: You have all different shapes and sizes and forms of attitudes and initiatives once someone has completed training. So I would say overall most of our employees understand the bigger picture of why they (employees) are going to training to make them (employees) more efficient and make them (employees) a better company. The majority of them (employees) really look forward to going to training.
Company JJ: I would say that everyone (employees) understands the value of an ongoing education. *[From the researcher’s perspective, education and training were used interchangeably by industry personnel.]*

A few managers saw WEDnetPA funds as a huge value to maintain loyalty and competitiveness among the workforce. As a result of company personnel caring about employees’ development and training needs, employees feel loyal to the company.

Company HH: Absolutely. It (WEDnetPA) brought us into the 21st century. No two ways about it. Without WEDnet money of course like the economy businesses go up and down it was as almost I was as short of having training money. I am a former school teacher and education is unbelievably the most important to me. Because if you educate an employee first of all they are your employee forever then the loyalty factor is there and secondly you improved the way you do business. So we can become more competitive everyday.

Company B: Even as feedback with the participants when we sit down with them and ask them and they feel what they did also is kind of reinforced too. And we take an interest in it instead of just going to this class and be done with it and it’s not a formality. We really take an interest in their improvement and development.

There were many participants who said their management continues with training post WEDnetPA funding. One of the goals for WEDnetPA is to educate companies particularly leaders, about the fact that providing training to the workforce is crucial in order to remain in operation in the United States. Companies that did not receive WEDnetPA funds because they reached their sit out period either continued to conduct training through self-funding or sought other grants through consortiums.

Company U: Well I know recently that training is a big thing actually I would say in the past five years we looked at that more closely and anything they (leadership) could do to train individuals with the excel training with the supervisory training we still have an ongoing even though it wasn’t through the grant we didn’t have enough money to do it (training) all. We continued to do training for our managers and our supervisors.

Company HH: They (leadership) do. They (leadership) have gotten better at it (valuing training) they really have they have begun to see the necessity of training. But this has taken me fifteen years probably twelve of those years to get it to that point. So yes I am allowed to go ahead and continue training year
around every year. But the WEDnet money there it is the little luxury classes that maybe I can’t do as a general rule.

Company AA: Exactly. But they (management) do try to challenge folks they (management) do try to educate them (employees) and it may be just something very simple as I will say that they (management) are finding that a number of problems are occurring day to day or week to week or whatever other words the frequency is there they (management) won’t wait and they (management) may need to say wait a minute here we have to do something about this we have a major problem here and we need to train somebody. That is physically our own training dollars for or whether it is the WEDnet dollars.

Participants, leaders, and WEDnetPA partners who were interviewed commented on the fact that leaders do see value in training whether it is WEDnetPA funded training or training in general. One leader said that training helped him to move his business forward. Without training this leader cannot operate a full capacity.

Company EE: And our general manager we all have to provide quarterly reports that go to the quarterly meeting of all the plant managers there are about six (plant managers) and the president of the company. They (management) go over like continuous improvement what this department is doing what that department is doing, issues, benefits, etc. whatever. And I write up on WEDnet and what we have done with it (WEDnetPA) and how we were reallocated more dollars in this year and give the highlights that general manager needed. Because not every state offers grants like this and we have plants in other states. So they (leadership) thought that this was something that is such a feather in xxxx’s cap because while we are saving money we are enriching the group at the same time and also training our first line supervisors.

Partner OO: And then begin to see the value of training and in some cases we are seeing that now are starting to develop a training budget because they (small companies) see the value in training. I think this has been the primary thing I am seeing (small companies now valuing training). They (small companies) have moved this up (training) as a priority when times get tough that marketing is first and training falls off the radar screen. We are starting to see more and more companies saying no this is important we have to keep the training investment in our employees and in our area particularly we have xxxx county we have eight or nine counties that we serve and xxxx county which may not be the focus of your study but has a large manufacturing base. What we are seeing there is that employees can move from one manufacturer to another so it is vital that they (companies) provide training and retain these employees. What I am seeing that they (companies) are starting to do is have employees understand by doing this (training) that they (companies) are investing in the employees they (companies)
value the employees as a person. You are not just a body here to do the work we want you to grow with the company. And I think that has been really important with us.

Leader TT: Oh absolutely there is no question that I can’t move the organization that I operate under without doing a tremendous amount of training. It (training) has to start at the staff level.

Theme #2: Measurement Methods

This theme reflects on participants’, leaders’, and partners’ views of measuring training effectiveness. There were significant findings for this theme. Most of the participants and leaders interviewed do not conduct evaluation studies on training and lack measurement methods.

Company LL: We don’t, we really don’t. I mean we do performance appraisals and some of that comes through on the performance appraisals but there are no specific measurements that we utilize.

A WEDnetPA partner agrees that companies do not do measurements and confirms that the reason for a lack of measurement is that companies do not value the measuring of training effectiveness.

Partner QQ: Companies are not really big on measurement. A lot of manufacturing companies do not care if we get a supervisor impact survey ninety days out. They (companies) definitely don’t see the value in it (measurement) as much as you or I would.

There were many companies that reported a lack of specific measurements. If the companies had measurements, the measurements did not focus on training effectiveness but rather were geared more toward measuring quality and output. Company N talks about obtaining measures again for measuring repair time and not training effectiveness. I believe that companies do not understand the meaning of training effectiveness and therefore do not relate training effectiveness to measurement.
Company N: Well it is only my opinion but I feel that this company severely lacks metrics to measure our performance. I wish I had a way to measure mean time to repair and mean time between repairs because it (repair time) would be a good indication of the quality of our maintenance work and the efficiency of the maintenance department but we are not set up to do that. And I have to rely on walking around the mill and gut feeling and seeing results in production and equipment being run more reliably.

Company K: Sometimes it is hard for us to track the results to know our workers comp has gone down. I am sure there is a percentage and I should have looked into that (percentage) and gotten that (percentage) for you ahead of time. Even our quality to see, we have our basic measurements but nothing that involved.

After companies shared with me that they have a lack of measurements in general as well as specific measurements I then asked the companies for an explanation of why there was a lack. Companies responded that the lack of measurement resulted from the degree of difficulty of producing quantitative measurements; evaluation models are confusing and measurement is hard to accomplish in general.

Company S: And you know they (employees) are so and I don’t want to use the word wishy washy but someone using communication skills one day and the next day because of the mind set that they (employees) are in or an attitude that they (employees) possess they (employees) might not possess that same quality of communication skills that they (employees) did the day before. Does that mean their communication training wasn’t good? No that just means that there are other factors that come into play and how do you pull those out to measure the end result. Yeah, I just think it is really challenging to do that. You know we have done other types of training here such as blueprint reading and geometric tolerancing, basic math skills, and even English as a second language program because those in my mind are a little bit easy to measure because they (skills) lend themselves more to a behavior that you can see and evaluate after the class or skills that they (employees) now have. Some of the other classes it is just really challenging to try to do that what should that behavior look like going forward.

One leader is confused about how to approach an evaluation model.

Leader TT: I am not clear on how to do that (measurements). So that is something that I would rely on my HR Director to help me understand how we would measure it to where the measurements that you actually saw were meaningful and you can take action against them (measurements).
A participant from Company T has read the literature on measurements and training effectiveness and continues to be confused about how to understand measurements. This participant believes that there is skewing of data in calculating measurements. Therefore, this individual lacks faith in the measurement/evaluation process. This individual does not have a clear understanding of the concept of measurement.

Company T: Without some training on that I just think that it is very difficult at least in our situation. I just don’t understand how you do it (evaluation). I have read a lot of articles on it (evaluation) and I think there is a lot of fudging going on to make it turn out that way. I don’t know how you isolate all the variables.

Another leader comments on measurement being difficult to do in general. This leader targets particularly soft skills as the issue in attempting to accomplish measurements.

Leader UU: Yeah and it is and there is so much subjective matter you know it is one thing when you have different numbers to drill down or different numbers to analyze and make some assumptions against them (numbers) but it is a lot harder when you are dealing in an area of more subjective personal communication and how effective was all that when you are all done. So when an employee comes up to you and says it was the best training I ever had and then okay you put that (training) in the tick mark of that (training) was a good one. And we definitely have had employees in different areas that had training that have definitely made comments that they (employees) you know enjoyed being trained as opposed to feeling that they (employees) were out there on an island.

A few companies commented that if they had a simplistic measurement tool they would consider conducting evaluation studies and measuring training effectiveness. The measurement tool that they are requesting should be simple enough because all that is required is to plugging in numbers into a tool that populates a final calculation. This individual’s other issue is getting data from other people in order to calculate measurements. First line supervisors in this case are not timely in giving this person the needed information. Therefore, a simple calculation in which readily available data could be used to populate a figure would be beneficial.
Company BB: If there was a tool where you would plug numbers in and it would give you the results in an hour or two to do it heck yeah. It is a matter of analyzing the data and giving it (data) to the production supervisors and looking at it (data) and putting it (data) in the bottom of their (supervisors) pile and not priority to them their (supervisors) priority is product made and out on time and quality.

Company Y: No one wants to do anything unless there is software to calculate it (measurement) for them.

Most companies interviewed in this study do not calculate ROI and find ROI to be difficult and time-consuming. One participant said that she did not have the proper resources to conduct an ROI study. Another participant said that ROI is just not her company’s style because of the type of product the company makes and the company’s industry. Again, the participants appeared to not understand the purpose or value of ROI.

Company F: I don’t think that is and I think part of the problem is that you need dedicated resources for that. For example, xxxx has become a bigger company and I know that because I have been here for six almost seven years. We were a smaller company when I first started here and we began to grow. You know the investors I am sure do their own ROI but internally we would need resources for that. You definitely need dedicated resources for that.

Company HH: No. That (ROI) is not necessarily our style. When you look at a company that is into décor and stuff sometimes numbers don’t happen.

Companies shared their feelings that ROI was difficult to understand and utilize.

Company KK: More time would be spent trying to identify return on investment than it would make (ROI) it worthwhile.

Company S: It is hard sometimes to link that (ROI) back to training.

Company CC: Yeah I was going to say return on investment is always a hard one if it is not black and white.

Although most companies had stated that they did not have specific measurements to evaluate training effectiveness, there were a few companies that had
some type of measurement system in place to attempt evaluation. Companies utilized the post-test, Kirkpatrick’s level two as a measurement method.

Company I: They (instructor) did yesterday after their (employees) math and blueprint reading they (employees) will be doing a test afterwards just to see where they (employees) are.

This WEDnetPA partner is using post-tests with a particular company in order to measure training effectiveness and knowledge learned by the participants.

Partner PP: The only one that I could say that comes to mind is that we are working with an organization that is providing like certification training and so in terms of the specific measurements the people have to pass the certification in order to pass the course. So in that sense that would be the measure in terms of transfer of learning and they (employees) actually need this to perform their (employees) jobs. So I guess the specific measurement would be passing a specific certification.

One particular company has its own special evaluation system, which is referred to as the three step evaluation process. Below, the leader explains how the evaluation system works.

Leader VV: We monitor the employees’ skills what they (employees) are capable of doing. Our supervisors do an annual review for every operator that they (supervisor) supervise and we have a large spreadsheet and we grade that okay this fellow can either operate this machine on his (operator) own, he (operator) can operate with some assistance or he (operator) can’t operate it at all. We use a three step evaluation and that is reviewed every year with the operator. We kind of monitor things that way.

Some companies utilized performance evaluations as measurement tools. This seemed to be a popular measurement method, perhaps because the process is understood and easy to use across the organization.

Company X: Yeah, from year to year we will take the previous year’s evaluation put the results on the upcoming evaluation and then compare what was stated what the goals were if there has been improvement if there has been no improvement that type of deal. Yes, that is the only written measurement we have but that is on an individual basis and it (performance review) doesn’t evaluate like the kaizen changes it (performance review) evaluates the employee.
Company H: What we do once a year is a self-evaluation and that self-evaluation we have to have specific goals of what we want to learn in the next six months and the next year. That is how we track and measure what we learned. When we do our evaluations the next year we are evaluated on what we learned, what we remember and we get more for the following year.

One company used kaizen events from lean manufacturing to attempt to measure training effectiveness. This company feels that kaizen events report information regarding what processes or programs are and are not working for the opportunity to make ongoing improvements.

Company X: No there is not any written documented measurement but there is constant monitoring to see if there is an improvement. For example, our first kaizen event was called downtime reduction out in the plant. In other words, when we go from job to job to try to speed up the clean up of machinery the set up and bringing materials to the line to get started. So we went through the kaizen and the team made the recommendations then we trained everybody that would be involved on the new thought process on the new steps that we were going to take and then eventually you find out what works and what doesn’t work only by trying it out and that happened with a few of our kaizen events. So it is just monitored on a constant basis and if we find that one of the recommendations that we tried because everything is decided in a kaizen event we would go forward with and implement and if it didn’t work for whatever reason we would remove that and go back to the way we use to do it. So it is just an ongoing process. These kaizen events started two years ago almost two years ago and you know they (kaizen) are still monitored and looked at possibly changed.

Interviewing employees post-training helps two companies measure training effectiveness.

Company B: As a whole no. Only on an individual basis. The ones that send people to training. I have been discussing results with them but leadership as a whole no.

Company F: Yes, I know…..We recently changed directors. We had a director that was part of our company for several years. She did things her way. And we now have someone that has been here a little over a year. And slowly but surely we have started to implement more measurement. For example, we currently have trained thus far ninety employees in our customer service initiative. And we are putting together now the next plan to interview a select number of those people to see how this has impacted their day to day activity back at their jobs. What we
did was we didn’t just train customer service representatives, we trained company wide. We trained people from our claims unit, people from our collections department because what we don’t see is that we are each other’s customers and at times we have thought of customers as those only on the outside. So now we are going to measure exactly how it has impacted their jobs. And then the next step is to see how the management team it affected their jobs. So we are doing it with the first hundred or so people and then of course to continue to train while we are at it and go back to see what happened.

**Theme #3: WEDnetPA Funded Training Program Overall Perceptions**

Companies and leaders gave feedback on the WEDnetPA funded training program. Positive and negative comments were received by the interviewer. Overall, the majority of participants and leaders felt that the WEDnetPA program was beneficial.

Company M: I think the grant is excellent. I am really glad we had the opportunity to participate with WEDnet.

Company Z: I can’t think of anything negative. Positive is everyone that has gotten the training seems to be very happy with it (training) and just asks for more (training). And I am hoping this year we can get it again and give more training to more people.

Company A: This year it came into question whether or not the state was going to fund the WEDnetPA program at all. And personally I would hate to see that go away. It’s proved to be a very valuable program to our company and our employees. I would certainly be an advocate to continue the program. I know this year it was brought into question whether or not they were going to continue to fund it. And I think in September it was decided that they were going to fund it.

Some companies commented that the WEDnetPA program is good once you come to understand the process of the program. Understanding how to complete all the paperwork and then submit the paperwork for reimbursement can be somewhat tricky at first.

Company H: It was very good. It was a little confusing at first. I am extremely busy all the time and to sit down and learn the process and instruction sheet it took a bit of time. I am very pleased with it as well as our corporate office. I brag about it all the time when I go out there.

Company A: I found the process to be rather straightforward. The first year we applied for funding was a little intimidating because I had never done that before. Once you go through the first year you have that to look at as an example. The
following year they kept the process relatively consistent so the application process was the same.

Now when new companies come onboard with the WEDnetPA program, they attend a mandatory training session to learn how to utilize the system. Companies found this process to be very helpful and afterwards were less confused about the operation of the WEDnetPA process.

Company Y: I think it is good that they (WEDnetPA) do have the mandatory training every year. You are kind of oh gosh I have to go to this. It is good to go and have those procedures reviewed with you.

Company EE: They (WEDnetPA) have implemented over the last couple of years you must attend a training in order to use your WEDnet dollars you must attend a training. They (WEDnetPA) go over everything intensively and they (WEDnetPA) give you facts that blow your mind away too. But they (WEDnetPA) are always going to support you and they (WEDnetPA) are always there to recognize you and the process is flawless and it (WEDnetPA process) also made me lean on my partner more and get more business out of it and also for the outside firms like xxxx they are kind of our partner too.

Almost every company interviewed felt that their WEDnetPA partner was very knowledgeable and helpful. The participants felt that their partners went above and beyond their expectations in delivering the WEDnetPA program.

Company LL: Well the positives are when I was first approached to participate I was very skeptical because I thought it (WEDnetPA) was going to be a burden on the paperwork aspect of it and that was not the case. So xxxx made it very helpful encouraged timing and so on and told us exactly what to do and they (xxxx) were very helpful in getting the grant. It (WEDnetPA process) was very positive.

Company JJ: I would say first of all the whole entire thing was extremely positive. The application process is generally very easy to follow. Anytime I had questions the gentleman at xxxx was very quick to respond and very clear in helping in straightening out in whatever it might have been confusing.

Company U: They were very I mean the paperwork was a lot of paperwork and everything but they (partner) were very helpful with doing the paperwork and everything and get me through that.
There were two companies that really liked how WEDnetPA focused on training for small companies. Many smaller companies cannot afford to conduct training with their workforce due to the other expenses that the company must focus on in order to remain competitive in today’s global market. Personnel in the selected companies that this researcher interviewed indicated that without WEDnetPA funding providing training to the workforce would be challenging. Thus, the researcher’s perspective is that the use of the company’s resources is primarily utilized for operations and production of goods and services. The use of the company’s resources specifically for training and development is relatively low.

Company V: And especially for small manufacturing companies. Manufacturing in Pennsylvania is such that it is a dying industry here and to try to keep them (manufacturing companies) alive and the small manufacturing companies that I am thinking of that are here in xxxx a lot of them (manufacturing companies) are small family owned businesses and operating on a shoe string so the training is wonderful and beneficial but it (training) has to be something that will be useful as well why……training is great and knowledge is great but to be useful to the business it (training) has to be almost a little more customized. WEDnet training was definitely a good experience. The big thing is that I can definitely say it (WEDnetPA program) put our focus on training.

Company C: It is a fantastic program and would help so many smaller companies that either don’t have the money to do the training to do what they need to do or enhance an already existing training program which is what it did for us.

Companies mentioned a few negatives regarding the WEDnetPA funded training program. One negative was that WEDnetPA requires companies to use social security numbers to identify employees. Employees were uncomfortable giving companies permission to use their social security numbers due to a high rate of recent identify theft in the country. Companies suggested that WEDnetPA use drivers license numbers or another method that was not as highly personal as, for instance, social security numbers.
Company O: Another thing I don’t like that we have to give social security numbers. I know that could be changed to drivers license numbers or whatever it is my understanding that everyone over the age of eighteen has to have a state ID so I like to get away from social security numbers because a lot of people have heart burn with that (social security numbers).

Company LL: The problem is that when I……there was a lot of people that received training who I could not process through WEDnetPA because they (employees) would not allow me to use their (employees) social security number.

Company S: I don’t like the fact we have to give employees’ social security numbers. I suppose the reason we have to do that is prove they are PA residents but as an employer we know that and I don’t think we need to provide social security number to prove that. It is difficult because here we keep that information extremely confidential. Now we are passing it on to a third party and you don’t know how many people have access to it (social security numbers).

Then it (social security numbers) is going onto forms and being sent in the mail and it (social security numbers) is being mailed and it opens up the possibility of people seeing that information that shouldn’t be seeing that information. So that is just one of the complaints that I have about it (WEDnetPA).

Companies did not like the cap that WEDnetPA imposed on the amount of funding a company could receive per employee for basic and IT training. Companies would like WEDnetPA to extend the cap amounts so the companies could train more employees. The caps certainly limit the number of employees that can be trained, especially if the needed training is costly.

Company D: Well the dollar level is kind of low per person because you know when you get a certain amount of people in a small company this size such as this and you might have one or two people that have to do all these trainings and you have a cap or they have a cap per person. Sometimes that can be a little bit of a deterrent because the main people of the company should know it.

Company P: The other thing is they (WEDnetPA) do have a limitation that I would view as a negative. It is $450 dollars per person for the year. If it happens to be information technology like computer type training or what have you I think they allow $700 or $750. And that is probably going to cover one course per year per person. Unless you send the same person to an IT type course and then to a skills type course then they (employee) could use both at that point.
Companies did not like the sit out period required by WEDnetPA. Companies that receive training for a certain period of time must sit out and cannot apply for funding for a specific period; they then can reapply once that time period is over. Companies feel that they should be able to receive funding every year until they do not need the funding.

Company FF: Sit out yeah, this year was definitely one of our sit outs. And I know we could have done a lot of training this year if we had the additional funds. But it is a sit out year.

Company MM: Well the only thing that I have to complain about WEDnet is I don’t understand the two year period where you can’t access funding. That (sit out period) does not make sense. Other than that it (sit out period) has been my only complaint.

One company agrees with the other companies regarding the sit out period and feels that the break in funding is especially disruptive especially when courses that have sequences need to be stopped.

Company A: The disadvantages are there are times when you are taking a few courses such as excel 1, excel 2 and there is two other advanced excel courses and when you are getting a sequence of courses like that that are pre-requisites you know one building upon another you could only do two and stop until the next year and then the next two, it doesn’t allow for continuum of training would be the disadvantage.

Some companies do not like the paperwork process for the WEDnetPA program, though for other companies this was not an issue. The companies that disliked the paperwork process thought that there were too many forms to complete and that the paperwork task became time-consuming.

Company EE: Negative aspects probably the fact that I have to do paperwork to submit everything but that is my own gripe. And that (paperwork) is a negative aspect you know right now I am thinking about training that I must submit and I haven’t been able to submit it (paperwork) and its (paperwork) just one more thing to add to my plate.

Company C: Overall I would say I was happy with it. If they could change a few things, its just the way the reports have to go in I think they are very cumbersome.
and I am sure that is state driven.

Another complaint was the time period the state allows to use funding before the funding expires for the year. Some companies feel that the turn-around time from submitting the application until the state makes their decision and awards money to companies cuts into the time allowed by the state to use the funding.

Company AA: I guess the fact that it is on a fiscal year and we function on a calendar year sometimes makes it a little difficult because most of our training that we do and it’s a bad thing to say and we do rely on the WEDnet dollars to train but by the time you apply in July and you hear about it (WEDnetPA funding) in September whether you qualify or don’t qualify and what you qualify for we usually lose three months for training so it’s the summer months and I don’t know how well we would pull off the training classes because people wanting to take their (employees) vacations and manufacturing you not only have your month quota you have your quarter quota and your year quota and so there is a lot of time in there where they (management) say I don’t mind you training but it (training) can’t be this month and probably its more our side than the WEDnet side but maybe they (WEDnetPA) are on the fiscal as opposed to the calendar year and maybe they (WEDnetPA) can’t change that (funding calendar) because that (funding calendar) is their (WEDnetPA) functioning year.

Company HH: WEDnet has a donut hole and you have to wait until the next year to get out of it. I also would like it if the year floated into the next year without no problem. For example I had classes scheduled for some employees right now the classes are cancelled and the next time the classes will be offered is September. My WEDnet money ends in July. Had they gone a few weeks before it (class) was cancelled fine it (class) would have been paid for and now it (class) won’t be paid for but by us.

Companies would like to have reimbursement back in a timely manner from WEDnetPA. They feel that the time period between submitting their paperwork to WEDnetPA for reimbursements and receiving the actual reimbursement check is too long.

Company T: The reimbursement process takes way too long sometimes I have to call three times in order to get a check and it shouldn’t take that long. If I get my training forms turned in and it’s verified why does it take three months to get paid for it (WEDnet).
Company BB: It (WEDnet) just gives you money that you normally wouldn’t have in line to do things (training). When you submit things it seems like it takes forever and they (WEDnet) have deadlines if you don’t get it (paperwork) in then you don’t get reimbursed. It (reimbursement) takes forever for the turn around. I understand it (WEDnet) is a government thing and the state controls it (WEDnet) and that might be part of it and you have to have it (paperwork) in by this time or its (training) not going to be paid well……..the training goes until the end of June but if you don’t have it in by May…..well I have training scheduled for the 24th of this month. And I said to Diane at xxxx I got training scheduled at the end of this month to use up my money and can we go over it and she said okay no problem and I got an email your end results must be submitted and how can it (end results) we didn’t even conduct the training yet. And I will submit it (end results) in July knowing the training was conducted in June and it probably won’t be till the end of the year. I shouldn’t say that because I don’t know but it will be several months before you will see any return from it (funding).

Lastly, companies did not like the fact that WEDnetPA funds cannot be used for middle to upper management and leadership training. WEDnetPA will only fund training for first line supervisors. Some companies feel that middle and upper management, as well as leaders, need training just as much as front line supervisors.

Company Q: I would like it to be able to use WEDnet money to be able to do all kinds of things and things for managers too. I’m telling you they (management) need training just like everybody else. They (management) are not above anyone else. How many managers don’t want training. They (managers) think they are above it (training). When you got managers that want training, that want to improve and grow wouldn’t it be nice to afford them (managers) that too (training). You know they (management) are the ones that are leading the people. It would be nice if they (managers) had management skills in some cases. Or you promote someone up from the floor or whatever in a management spot. Wouldn’t it be nice to send them (new manager) to training, to formal training. So the restrictions and you can’t get it every year thing.

Company D: I use to think not having the higher ups the two managers not eligible for the training I use to think that was bad but I think they turned it into a positive because since they didn’t go they are asking the employees what they learned and the employees feel better and paying attention more and its making them share what they learned. They are actually sharing it with their boss or their boss’s boss. At first I thought why isn’t the general manager and operations manager not eligible to qualify and get this grant money and get it for training. We have turned that into a positive.
Theme #4: Funding Supports Training Needs

This theme focused on the training needs of organizations and training budgets that supported those needs. Training budgets included either the organization’s own budget or funding help from WEDnetPA funds. Many companies interviewed seemed to discover their training needs based on their performance appraisal system. Almost none of the companies completed a formal needs assessment to determine training needs. Their needs assessment occurred through performance appraisals.

Company GG: The assessment is based on our performance as far as productivity, profitability, a certain product line I mean I got four different manufacturing processes here so I look at what is going wrong and then try to identify why what skills are missing that they (employees) do not have and then I go out and look for that type of training through the manufacturing resources that we have.

Company T: We have identified the training requirements for all the people in the company and as part of the review we compare where people are with the training needs associated with their (employees) current position and part of the process is then to identify the training that needs to be addressed within the next annual year for the next review cycle. We continue to create a training plan and that is done by senior management team that is done by current projected needs. So for some business opportunity that we are interested in pursuing and we don’t have those capabilities our first approach would be to see if we can….have those people internally to acquire those skills and train them (employees) in those skills. If not then we would go outside.

Some companies also involved management discussion with the employee during the performance appraisal process. The companies mentioned above appeared to complete the performance review process in a generic manner without much employee- manager interaction.

Company X: Well every year one of the ways we establish what we need is through individual annual evaluations of each employee. The employee fills out a self-evaluation with their needs and their (employee) thoughts and the supervisor fills one out and they (supervisor and employee) meet and ultimately what comes out of that meeting is not only possibly a monetary increase but any training requirements that they (supervisor) feel that this employee might need and when
Managers were interviewed in some companies to determine the needs of the workforce. Management interviews served as the needs assessment process for these companies. Based on the managers’ interviews, trainings were selected and approved by leadership.

Company L: I get a hold of the department heads and they (department heads) get with their (department heads) supervisors and discuss what type of training they (supervisors) need for the workforce. Then we all together prioritize it (training needs) and then of course according to budgetary requirements and time frames we take it from there. That is how we decide what gets trained first.

Company W: I will be honest with you we don’t have a very formal or robust process for identifying those gaps. We are a union facility and in regards to our hourly folks and with the labor raise system as it is set up it is based primarily on hours so if you have the hours in you have the code. We just don’t have a robust system today to identify those gaps sure a supervisor suggesting that they think this is the training that someone needs and that is the best that we do today is to have the supervisors involved sit down with their folks and talk about what is the training that they (employees) want and what is the training that they (employees) need and for them to step back and hopefully identify additional trainings or what the priority trainings are and feed that information back to me who then puts it together into a training and development plan which that plan is submitted to the president for approval.

One particular company was unique in the way it conducted its need assessment to determine training needs. This company utilized its sales force to survey customers. The entire training plan and the training needs were based on customers’ needs and desires. If a customer wants a particular product and the workforce has not been trained in that process, the company will spend the funds and invest in the training.

Company MM: We do a formal needs assessment. We have our sales force come in and we do customer surveys and we find out what our customers would like us to be able to do and we will assess whether or not our organization can provide that service or we need training to do it (service). So it is pretty much a standard
needs assessment but it (needs assessment) is driven by our sales force and our customers.

Customized job training under the WEDnetPA funded program was very important to some companies due to their workforces needing specific training because the workforces were highly skilled in their job tasks.

Company R: We have welding and they (welders) are certified. They (welders) have to do through a certification program from a machine operator to a polisher. So it is pretty specialized there is specialized training involved.

Most of the companies, leaders, and WEDnetPA partners- especially the smaller companies- agreed that the WEDnetPA funded training program was a huge financial resource for them. Without the funding, most companies would have a difficult time providing much needed training to their workforces.

Partner RR: One it (WEDnetPA) enables companies, you know we target small to mid size companies, it (WEDnetPA) enables companies that have a training budget or no training budget to include training through the guaranteed free training program which will benefit the employees.

Company AA: I would say it was the fact that it (WEDnetPA funding) gave us the ability to provide training and not have to worry about the cost where we are not the only company that has little or no training dollars allocated and this has been a big boom for us because it is hard to function without training your people. And it (WEDnetPA funding) has been very beneficial that we have been able to go ahead and do that (training). I would say that we would never train our folks without a budget but having these funds available made it (training) a lot easier to do.

Overall, companies and leaders found that WEDnetPA funds helped absorb the costs and increased training opportunities for them and their employees. The WEDnetPA funding was certainly a nice addition to their training budget or allowed companies to create an actual training budget because they now had funds.
Company FF: And the other thing that we do it is for example for WEDnet year we tend to do a lot more training obviously I mean we use that more of a wish list type of thing as opposed to more mandatory training.

Company U: Yes. I definitely did. It (WEDnetPA) brought training in here (company) that we would have never seen. So I think it was a good thing in that aspect especially I said I came into it (WEDnetPA) and found out about it (WEDnetPA) through the safety part of it which was much needed training and at the time and is probably something the company wouldn’t have went and paid a trainer to come and do if we wouldn’t have had the grant money.

Lastly, small companies were grateful for the opportunity to receive WEDnetPA funding.

Smaller companies have difficulty finding funds in their budgets to set aside for training needs, especially with the status of the current economy and soaring fuel costs.

Company A: And just the opportunity for training that is provided to a company our size that you may not otherwise have. And so I think that is both a benefit to the employer and employee to be able to do training that they couldn’t otherwise do on their own.

Company G: I really hope that they keep doing it (WEDnetPA) because I think it helps. We are a large company not at corporate but we have a lot of employees elsewhere at different plants and I think it really helps a lot of the smaller companies when I went into WEDnetPA training. You could hear the benefits that come out of it. I think the state of Pennsylvania is doing a wonderful job at it.

Partner OO: What I see is in the case of the particularly the small companies 100 employees or fewer. They (small companies) didn’t do training they (small companies) didn’t have any money they (small companies) didn’t have a budget and training wasn’t going to be done. So by introducing them (small companies) to the WEDnet program and helping them (small companies) to develop a training plan and helping them (small companies) to prioritize the training doing some needs assessments.

Transfer of Learning

RQ3. How does the transfer of learning of WEDnetPA funded training take place in the selected companies?

There were various responses from participants explaining how selected companies in Pennsylvania receiving WEDnetPA funds transfer learning from the
training site back to the work area. By comparing the properties of codes and categories, four main themes were generated. Table 12 is a summary table presenting the four themes with a brief description of each theme. Each theme is discussed by providing participants’ narratives and interpretations via verbatim text regarding how participants created meaning from their experiences in terms of how selected companies receiving WEDnetPA funds transferred learning.

Table 12

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
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<tr>
<td>Barriers to Transfer of Learning</td>
<td>Barriers that cause obstruction in the transfer of learning with workers, management, leaders, and organizational climate.</td>
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<tr>
<td>Employees Transfer of Learning “Train the Trainer”</td>
<td>The specific ways employees transferred learning from the training sessions back to the work area.</td>
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<tr>
<td>Management Facilitating Transfer of Learning</td>
<td>The specific ways managers helped or encouraged employees to transfer knowledge and skills back to the work area.</td>
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<tr>
<td>Organizational Climate</td>
<td>The environment the employees worked in within the organization and how conducive the climate was to employees successfully transferring what they learned.</td>
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**Theme #1: Barriers to Transfer of Learning**

There were two main barriers experienced by companies attempting to transfer learning. One barrier was shutting down operations or keeping operations going and providing training to employees. Smaller companies especially had a difficult time
juggling operations and getting their employees trained when their workforce was small and limited.

Partner NN: The challenge that I see with a lot of companies is that they (companies) are not willing to give up the time off the floor to do the training. The companies that aren’t vested in the training as much. That is the company’s biggest gripe taking the employees off the shop floor. Other people see the value in doing the training and are willing to make the commitment.

Company AA: The reason I say that is because we are manufacturing and you are production and you have to get certain dollars out within the month, etc. And if you don’t meet that obviously the higher ups will come down on you and see you as not profitable and okay we need to thin you out or close you down type scenario. So they (leadership) are cautious I would say with the training that they (company) do and we need to find specific times within the month in other words less demanding times of the month. We end up with a little bit of time constraints for giving the training whether it is through WEDnet or any other type of method. When we even have employee meetings there is a small window of time that we can do them (employee meetings). Its trying to oh I can’t find the right word I guess work around production so as much as they (supervisors) support the training we are always given caveats okay as long as…..as long as…..and sometimes we are able to do it (training) and sometimes we are not.

Small companies had a difficult time conducting training and satisfying operational demands.

Company J: And by the way it is a very tricky thing because we can only send so many (employees) and if you think about it if two people spent the whole day yesterday, 2 out of 25 so 8% and I mean who sends 8% of their factory out the whole day. So that is a pretty big investment.

Partner PP: Sometimes I have seen with that is it is the smaller companies that struggle with that issue than the larger companies because they (smaller companies) only have a limited number of employees in the first place and for them (smaller companies) to set up a training you gotta have a little bit of a critical mass and you might be talking about taking down three-fourths of their (small companies) production team and they (small companies) haven’t figured out how to do that because again WEDnet only covers the cost of the training. And if they (small companies) have to bring in replacement workers then they (small companies) see the cost being prohibited in terms of the benefit of the training and the cost of being able to provide it (training). In most cases training is being provided during the working hours.
The second barrier for one company was convincing its supervisors to value training.

These supervisors did not cooperate with the company in getting the necessary training to the employees. These supervisors were focused on production and nothing else.

Company AA: But I do feel that I have some supervisors that are more supportive of the training than others and they (supervisors) will jump right on the bandwagon and say sure are you bringing that in I will get some of my folks to go and others its maybe pulling teeth hey we feel that maybe some folks in your group could benefit from this and can let somebody know and I think it is a mixed bag we have some (supervisors) that is extremely supportive and we have a few (supervisors) that if you tug at them (supervisors) hard enough they (supervisors) will loosen up and let the folks go.

But we are chipping away we are swaying more and more of them (supervisors) to understand you know and I think the idea of hey guys consider it free training. We are being nice and we say okay we will help you train your people so you can keep your people and we can keep you here (in the company). In the state we do value your manufacturing plant and we want to see it stay and if this (training) is what helps you then we are here for you. The thing that I do try to strive toward and help them (supervisors) understand is hey they (leadership) are trying to support us take advantage.

Theme #2: Employees Transfer of Learning/"Train the Trainer"

Companies did report on their employees returning from training and sharing knowledge with the other employees in the organization.

Company G: What we do is if there are certain things that people wanted to know we try to get that out of the person right away so these questions are answered. And if they get any literature sometimes we make up a book so the whole department can share that information or make copies of it and spread it around that way. I went out to Las Vegas to the SHRM conference last year and this is one example of how we shared it. Not everyone of us could go so we came back and made books up with different classes because the three of us went to different classes so everyone could share it. That is what we usually do. We got a time and attendance sheet of how you should utilize your time and attendance with the different steps. We made sure we even passed that all out and we passed it out to everyone and made sure we put it on our company intranet so people could assess it as a little bit of a guide for time management.

Company L: There are times they (employees) have other individuals working with them (employees) on projects. The newer employees learn from the older
employees that are already trained on the equipment or office procedures. Basically that is how it is done.

One company’s employees attended WEDnetPA funded training courses and changed job roles from assembler to machine operator repairing machinery. These employees successfully transferred what they learned in training back to the work site and made improvements not only for themselves but for the company as well.

Company EE: We have some people that are right now assemblers and they (employees) have taken machining one and machining two we don’t even have hand tools they (machines) have programs in them (machines) and these same people have been moved from assembly to machine operators. Now we have people that are doing some assembly on machines that are machine operation that have gone and taken CNC programming and have to utilize their supervisors less and less because they (employees) know the essentials of fixing a program on the CNC machine. So it is a little bit of a domino effect if you go from being an assembler to machine operator that is obviously it has to take some outside training to do it (machine operation). There is some on the job training because every machine is different but to transfer that knowledge it does work it really does work with training.

Many companies used the free training dollars to learn lean manufacturing training. There were several examples of companies that took the lean knowledge and immediately transferred it back to the work area and improved many processes. Employees in one company continued to utilize the 5S cleaning principles back at the work site.

Company EE: Yeah in the cells we have kaizen events they (employees) have to follow the kaizen initiative especially because one of the S’s out of the five is sustaining it is like the fifth S and all we really have to say now is to pick up on the 5S and housekeeping and those (employees) that have had it the kaizen initiative are trying to sustain it (kaizen initiative) and keep up with the housekeeping, keep using the shadow boards. I mean if we wouldn’t have done any of the training then it (5S) would have never happened.

Another company talks about employees in its shop area making constant changes by utilizing lean principles learned in training. The employees are embracing the changes and continue to utilize lean despite having gone through training a few years ago.
Company AA: I would say in our shop area because they (employees) have been the lead if you will on the lean initiatives in our plant they (employees) have taken some of the skills that they (employees) have learned and this was back in the fall and they (employees) have been able to implement….some of them (employees) is slow evolving but they (employees) have been able they (employees) did learn things that they (employees) had not already learned and we have had lean for a few years in our plant now. And even after a few years to still find more that can happen they (employees) were ecstatic. They (employees) are implementing it (lean) exactly what I don’t know but they (employees) keep moving forward every time that they (employees) are able to find a way to do something (process) a little bit better a little bit easier and the folks are enjoying it as well and they (employees) are not resisting. Some folks would resist the change and they (employees) are not resisting they (employees) are actually embracing it (change).

One company gave an actual example of an employee “Charlie” who has taken the lean principles to heart and made great strides in improving the tools and equipment.

Company GG: Oh well lets see a really good example would be Charlie is our tool and die cleaner in the profile department and he (Charlie) participated in a kaizen that was all just about the it was 5S but was all about the cleaning up the area and organizing it in the profile. They (employees) use a lot of what is called auxiliary equipment so every time you are going to run a line back there and actually assemble a line you start with an extruder and you add all these things to it and there are certain tools that you need. And he (Charlie) took that training and took it (training) very seriously and he (Charlie) devised a little red tag areas for equipment. He (Charlie) set aside a spot if this equipment isn’t being used and it (equipment) sits with a red tag and he (Charlie) monitors it (equipment) in the red tag area for two weeks he (Charlie) then makes it (equipment) available to other departments and he (Charlie) gives them (employees) two weeks. If they (employees) don’t want it (equipment) then we dispose of it (equipment) or we store it (equipment) in area up in the warehouse to keep the work area clean. He (Charlie) set up peg boards with hand tools that people use at each work station. He (Charlie) organized where everyone there has their own tool box and so I have three shifts of people with six to seven people on a shift all with tool boxes. He (Charlie) lined out a tool box area and each person has their own designated spot. He (Charlie) took the training seriously and actually implemented it (training) almost single handedly and that they (employees) are including painting areas on the floor and he (Charlie) come in on his (Charlie) off days and painted the sections in (floor) is all color coded. So he (Charlie) is my best example.

The last example of employees transferring learning is a company in which employees learned electrical training and took the knowledge back to production to make products safer for consumers.
Company JJ: We have done training with the National Electrical Code Association for our people that do electronics control design so they (employees) would have brought back knowledge here again just to make sure our products are safe.

Theme #3: Management Facilitating Transfer of Learning

Employees will have a higher level of success with transfer of learning if management takes the time before the training to discuss with employees the expectations of the training.

Company P: Well I think it comes down to now and we pressed on this a couple of times I think it comes down to having an expectation going in. The person going to the training there is some kind of expectation of that person and they (employees) know what the expectation is and when they (employees) come out they gotta do something with it. Whether it is to teach someone else or to show marked improvement on their (employees) jobs or whatever it happens to be. That is probably the key having that expectation out there rather than just having somebody taking a course for the casual interest of it (course).

There were managers who took the time to encourage employees to transfer the learning upon the employees’ return.

Company FF: What they pretty much do……a lot of times the new skill sets would be demonstrated so they would be encouraged to use their new skills right away. And they (management) would give them (employees) the time to let them (employees) use the skills that they (employees) just learned so it is more skilled based training and task based training. This is what I am talking about for our production group. Oh they (management) do and how they (management) do that is making sure they (employees) get a chance to use the new skills that they (employees) have acquired.

Company B: We have questions on the form for example what results have occurred as the associated is applying the learned task in such as way as expected results. They ask about the facts and knowledge the associate gained, how is the associate using the new information, what skills the associate developed, has his or her performance improved. Then again what results has occurred and what is the impact on business.
In this particular company, management sets time aside once a month to do reinforcement training with the entire workforce to refresh the skills the employees learned in training.

Company K: I would say overall we do a lot of reinforcement training with this (WEDnetPA) program. We send people out to training and xxxx comes back frequently and I guess it is a large organizational change. A large number of our team members has or selected or volunteered to apply for the reinforcement training. So every month we will set a half hour where these individuals go and meet with teams and review some of the xxxx major points and safety skills and they (employees) will go through that and get examples of what are some of the things that are going on now can we handle this what should be done and try to pull that training all together.

Managers discuss with employees specifically how the skills learned can be transferred to complete certain projects that have been assigned to employees. Also, the skilled employees that have taken the training are paired up with a non-skilled employee so that the latter can learn the transfer from that training.

Company N: What we do and I have already mentioned how we get the workforce together and we discuss the projects and repairs that are coming up. And what we listen for is response like yes we can do that we have the skills and then what we do is assign the project in house to the people that do have the skills and then we assign other people that don’t have the skills to work with them (skilled employees) so they (unskilled employees) can learn on the job from the people that were trained. So we after that point provide the support to carry on successfully at the completion of the project.

There were some leaders who got involved with employees and, in conjunction with management, encouraged employees to transfer the skills learned. This interviewee was the company’s vice president of operations. The interviewee spoke of celebrating the success of employees transferring knowledge and improving processes.

Company GG: Oh I guess we do promote if there are some awards for people like Charlie got employee of the month obviously for doing what he (Charlie) did. We acknowledge people we do have a company newsletter so some of the training if I can quantify something that they (employees) have achieved as a result like a reduction in set up time we really play it (accomplishments) up company wide so
that they people who did it (made accomplishments) know that they (company) are paying attention and it (accomplishments) mattered and it (accomplishments) mattered to everybody. So we try to do that and we try to do the other part of it was to enforce it (transfer of learning). We have to enforce it (transfer of learning) once they (employees) have done it (transfer of learning). I have what is called the three month rule where we come up with some idea and we implement it (training) and it’s all gung ho after three months it (training) starts to fade on its own people lose interest. Leaders are the ones that have to keep it (training) fresh and either keep improving it (training) or ask. I will ask a lot if I see a certain slide hey guys why is this happening why aren’t we talking it (training) about it (training) at shift meetings and then you learn why if there is some impediment and take care of it. Or I ask them for ideas so the role of the leaders if really enforcement I guess. A little reward doesn’t hurt.

One leader, as the owner of the company, used incentives to encourage employees to transfer knowledge back to the job and be innovative.

Company C: So I use some of the training that we do as a reinforcement to get some of the guys and ladies to do what we do. I mean its kind of two fold when they come back everyone has a different perspective so when they come back they say oh I learned this great thing and they want to consider this they know I have an open door policy if my door is open you can come in and talk to me at any point in time and I will stop what I am doing and listen to them. We will talk. So if they have a great idea I solicit ideas from them once a month and they get a reward in their paychecks we have a great little rewards program.

This company had communications and teambuilding training. The employees learned to use a certain phrase with each other and management when they feel they are being disrespected or not treated fairly by the other person. The phrase is “it’s raining outside”.

The vice president of operations has taken this training to heart and gone the extra mile to reinforce these skills with the workforce.

Company K: But he (VP Operations) is definitely committed. One of the other things that we have done is this was with his (VP Operations) input we asked the team members what they (employees) learned from the training and what impacted them (employees) and there was a lot and we actually kind of created a secret language if that makes sense at all that something like it is raining outside the way you approach someone and tell them (employee) to do something. You can keep your tone down and we really practiced this in all our sessions so everybody knows and we have used it a number of times that the team member says something in a heated argument or whatever someone (employee) will look
at them (employee) and say it is raining outside. And they (employee) know exactly what that means that their (employee) tone is off and they (employee) are not going to accomplish anything and they (employee) will go back to speaking differently and think about what or how they (employee) are saying something and resay it. So it is really something kind of neat but what xxxx had done as the vice president of operations he had done he had posters made up and hung them (posters) all around the office and plant floor that is always a constant reminder that you rotate them (posters) so people always have those slogans listen to understand, etc. around so it will remind them (employees) of it (slogans) on a daily basis.

The leader of this company talks about the importance of making managers and supervisors accountable for their actions and the bottom line results of the company.

Before this leader took the company over less than a year ago, the managers and supervisors were never held accountable. The interviewer posed the following question to the leader: how do you think you are going to approach the transfer of learning to get your managers in line with that?

Leader TT: That is a good question. I am not sure exactly at this point because we just haven’t gotten to that threshold yet. It is going to be an interesting question to answer as we get farther along. I guess I can’t give you a straight answer right now as to how I would approach it. I have had situations already where we have tried to train certain kinds of skill lets say specifically about lean and we will use a number of simulation exercises following the specific textbook or classroom training. And finding you know to our surprise even managers and supervisors sometimes don’t get it (concepts) they (managers and supervisors) just don’t grasp the concept and it throws you into a temporary tail spin so to say oh wait a minute these are things that the average employee and other manufacturing environments were able to grasp so what is the problem why aren’t we able to get locked in and what we are finding in some cases is that it is more behavior related than it is more learning related in other words the managers and supervisors themselves just aren’t motivated to take action that maybe the previous management style was as such that they (managers and supervisors) were never expected to actually accept accountability and make things happen. We had to go back and establish what the ground rules are that have managers and supervisors accountable for their actions they (managers and supervisors) are accountable for results and perhaps in the past that was never clear and they (managers and supervisors) were never held to that.
This company demonstrates transfer of learning through employees demonstrating how to utilize the new skills and knowledge.

Company T: Well that is….other than the training we do in a classroom they (employees) do not get credit on their (employees) training form until their (employees) coordinator their supervisor actually observes them (employees) demonstrating those skills. So if they (employees) are in the classroom and learn about skill then that is one thing and we say yes they (employees) have been to a training class. When they (employees) have achieved the skills then that is through observation of actually performing the skill. So now this is for most of our basic skills training. We do not give…..for instance if we are teaching someone to operate a press we have classroom training that takes place. And for them (employees) to credit for press operations they (employees) need to demonstrate that they (employees) can operate that press. So its not just a…..well that is just our normal way of doing it. Give credit for skills that they (employees) have demonstrated not training that they (employees) have taken. So I don’t know if that answers your question I think that is different than what you were after.

Some of the companies do not value transfer of learning. One WEDnetPA partner talked about the difficulty of getting companies to look at transfer of learning. Some companies do not understand transfer of learning and how to measure transfer.

Partner QQ: And I don’t think that employers take the time to make sure that is (transfer of learning) is the culture when the employee comes back from training that it conducive for the employees to apply it (training). And I guess that is why we always like to get the data some time down the road but also too to see if anything is occurring, is the supervisor observing and if they (supervisor) are observing are they (supervisor) observing any type of application with the new skill sets. Getting companies to even do that (observation of skill sets) is sometimes difficult.

One leader sees transfer of learning as difficult to do with the workforce while continuing to run the business. This leader does not understand the concept of transfer of learning and the benefits that the organization can derive from transfer of learning.

Leader UU: And the transfer is probably one of the more tougher parts and probably one of those things leads to…..because it doesn’t mean that the training was not effective it means when you come back sustaining that training was the tough part and I can say hands down that has been our toughest piece in all those programs that we participated in was sustaining certain pieces now some of it
would be because of coming back and making sure that the next set of people knew exactly what was going on because at the same time you are still trying to run a business and there is not necessarily lots of hours left in the day and we run different shifts twenty-four hours from Monday morning till Friday afternoon so that is three sets of bodies that you have to work on sustaining those efforts and that makes for us just in our specific business pretty tough.

Some managers just did not focus on transfer of learning with employees when the employees came back from training. Managers in one company viewed training as a task that needed to get accomplished, and when the training occurred the manager checked the box off and moved forward to the next task.

Company U: The honest to goodness truth I do not see that happening here (at plant). I don’t see a lot of that the leadership encouraging them (employees) to take that training once they (employees) return. It is like we the training and we are done and that is it. I don’t know how it is there (at your company) but sometimes it (training) seems like it (training) gets done just to get done (training). I mean things have been changing somewhat now but how can I say I haven’t…..I don’t know its just hard to say I have not seen a lot of them (leadership) encouraging the transfer of learning once the employees come back to transfer it (training) onto someone else (other employees).

Theme #4: Organizational Climate

Those companies that did value transfer of learning also made sure the environment was educationally conditioned for the employees when they returned from training. The organizational climate plays a significant factor in the transfer of knowledge with the employees.

Company HH: Part of it (create learning environment) is done via weekly staff meetings. Every single department in this place must have a weekly staff meeting which is the managers in the areas. The individuals right down to the janitor have start up meetings everyday. We are not like Walmart or Sam’s Club where their start up meeting is cheer which is garbage.

In another company, the human resource generalist created a learning environment by sending friendly emails to employees on a project management group in order to help
them transfer what they learned. The emails were helpful reminders about what employees learned in the course and their goals post-training.

Company G: Well this year we actually had a big project management group go and I know they have been using what they have learned as far as communication and teambuilding. For about ten weeks after I was sending emails reminding them of this training as what they had set as their goals and I had received a lot of feedback on that because it kept it fresh in their minds. Had certain goals that they were looking at and I kept refreshing them on their goals like have you done this and you said you were going to do that type of thing. And we were doing this in those two big groups where I just kept sending reminder emails of different things and the class was impressed of how they learned different things in the class like how much they could relate back to their people. And I kept sending out emails making sure of how they were relaying the information down to the different channels.

Summary

This chapter described the results for this study. Following are summaries of the themes emerging from each research question.

Training Impact on Workforce Knowledge/Skill Level

RQ1. How has WEDnetPA funded training impacted the knowledge/skill level of the workforce in selected companies in Pennsylvania?

There was a significant impact on the knowledge and skills of the workforce with the WEDnetPA funded program. Some companies made great strides in changing their organization and workforce with training provided through WEDnetPA funding. Many companies benefited from lean manufacturing and changed processes and procedures in the organization through their newfound knowledge of lean principles and 5S concepts. There were some definite themes of quality control especially with regard to a few companies learning how to draft and manage blueprints better. These companies instituted quality control measures to ensure that the blueprints were of higher quality as they were shipped to customers. One of the goals of WEDnetPA funding is to impact not
only the workforce with higher-level skills but also the organization by contributing to efficient and effective operations.

The companies interviewed were all involved in manufacturing, with the exception of an insurance company and a construction company. All of these companies experienced positive outcomes that helped change partially or completely the operations. There were companies that saved time and money by completing repairs in-house themselves instead of seeking the services of an outside vendor. Also, they now perform their own work in-house and do not need the services of a third-party vendor due to the workforce now having the skills and knowledge to perform the work and satisfy the customers’ needs and desires. The WEDnetPA partners commented on the positive outcomes of the training. Two partners discussed the increased production and decreased costs of those companies to which they provided training. Another huge outcome of the training was promotions of employees. Some employees working in hourly production positions learned new skills and knowledge through the encouragement of management and the opportunity of free training and were then promoted into higher-level positions. Another goal of WEDnetPA is for the workforce not only to learn higher-level skills, but also to be promotable into higher-level positions.

Besides improving the workforce, companies received other benefits from the free training dollars, both from the perspective of employees and management. Employees had more awareness of their jobs and work tasks due to the training, especially in the area of safety. Employees had increased appreciation toward their companies and loyalty because they felt the companies cared about their development because the companies offered the chance to attend additional training courses. On the management side,
WEDnetPA funds increased opportunities for either training that never gets accomplished or additional training. Getting companies to realize the importance of training their workforces to remain competitive in a global economy is a top priority of WEDnetPA.

Companies received a wide variety of training topics and courses from WEDnetPA either under customized job training, basic skills training, and/or IT training. The customized job training certainly helped companies provide on-the-job specific training for their workforces. Many of the companies interviewed were unique in their skills, cliental, and products mostly due to their industries within diversified metals. Some companies alluded to the difficulty of recruiting individuals with the appropriate specialized skills to join their workforce. Other companies were able to take the knowledge learned in the trainings and adapt it to their environment and culture and make vast improvements.

Valuing/Measuring WEDnetPA Training

RQ2: How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure WEDnetPA funded training?

There was a high value placed on WEDnetPA funded training by company personnel such as leaders, most middle level managers, and human resource/training professionals. Value increased with company personnel when they experienced the positive outcomes from the WEDnetPA funded training programs. Companies also placed increased value toward training in general with their workforce due to the outcomes of the WEDnetPA training. Many companies, including small companies, stated that they continued with training despite not receiving WEDnetPA funds. These
companies either budgeted training dollars or sought out additional funding sources such as consortia.

With regard to measurement there was a deficiency in evaluation studies being conducted. Reasons for companies not conducting training effectiveness measurements ranged from not having the time and resources to not understanding the foundation of an evaluation study and how to conduct the evaluation study. If companies did utilize measurements, the measuring typically came out of quality departments or production looking at outputs and yields. A few WEDnetPA partners confirmed the fact that most companies do not value measurement due to the lack of a clear understanding or a lack of resources and time. Most companies were confused about the concept of return on investment and found the concept to be difficult to use. The human resources/training professionals interviewed agreed that they would attempt to do an evaluation study if they had a simplistic measurement tool into which they could plug numbers and which could instantaneously calculate a final number.

Participants interviewed were asked to comment on their experiences, both positive and negative, with the WEDnetPA process overall. The majority of the companies felt that the WEDnetPA program was extremely beneficial to them from both a financial perspective and a training resource perspective. Companies felt that the WEDnetPA partners were very knowledgeable and helpful in providing direction and assistance with the program. Some of the negatives focused on feelings that the funding caps per employee were too small and limited the number of employees that could be trained depending on the cost of each training. The sit out period was not well received by companies, especially by companies receiving courses that had sequels. Some
companies found the paperwork process long and not friendly and did not like the turn-around time in receiving their reimbursement check. Companies felt that management and leaders should qualify for WEDnetPA funding because they had training needs also and could greatly benefit from the program.

Companies had various training needs for their workforces. WEDnetPA funding either gave companies the opportunity to meet their training needs or supplemented their budgets. Small companies especially were grateful for the opportunity to receive funding from WEDnetPA and were also pleased with the focus that WEDnetPA placed on them. Some WEDnetPA partners helped companies with determining training needs by educating companies on conducting needs assessments. Only one company that was interviewed conducted a formal needs assessment. Most companies utilized the annual performance review process to determine training needs between manager and employee. A few companies only utilized management to determine training needs by sending management a survey. One particular company was unique in their needs assessment process; their sales force was the needs assessors and they administered a survey to customers. The outcomes from the customer-based survey were the foundations for their training needs.

Transfer of Learning

RQ3: How does the transfer of learning of WEDnetPA funded training take place in the selected companies?

As with any type of training being conducted, there are always different types of barriers. Some companies experienced barriers in attempting to get the WEDnetPA funded training implemented with the workforce. One common barrier seen in this study
was the time factor, especially in smaller companies trying to continue with production as scheduled and release a percentage of the workforce to participate in the training. In smaller companies, releasing employees to attend training could mean releasing a majority of the workforce. Another barrier was getting front line supervisors to see value in the training and cooperate with human resources or training departments to release their employees from work to take advantage of free training. Some human resources professionals mentioned coaxing supervisors to allow employees to attend; some human resources professionals were successful in their endeavors while others were not.

There were success stories from companies about employees taking the knowledge and skills that they learned back to the work area and demonstrating transfer of learning. There was a lot of “train the trainer”: employees who were trained came back to the organization and then trained the employees who did not attend the training to educate them on the newly learned skills and knowledge. There were many examples of companies in which employees took the knowledge learned in lean manufacturing training and instantly applied it in the manufacturing plants because the employees were intrigued with the processes. One particular company shared an interesting example of an employee named Charlie who took the lean manufacturing concepts and principles to heart. Charlie really made a huge impact in the organization; he took ownership and revised the tools and equipment handling and saved the operators time and money in the set-up phase of the job.

Management also took an active part in helping the employees transfer knowledge and skills back to the work area. Some managers discussed the expectations of the training with employees before the employees attended the training. Having the
expectations set forth helped the employee visualize and understand the needs of the company before going into the training and what the expected outcomes were for after the employee leaves the training. The management team of a specific company set aside time every month to do reinforcement training with employees. This company would shut down production for half an hour and employees would rehash what they learned in past trainings. There were managers who met with employees upon returning from training and discussed what the employees learned and how to transfer that knowledge and skills back to the work area in a positive manner. Leaders talked about celebrating the successes of transfer of learning with employees such as with Charlie, who was recognized plant-wide and given an award. Other leaders gave incentives to the employees to solicit ideas from trainings in order to make improvements in their companies. Unfortunately, some companies did not see the value in transferring learning. These companies felt that transfer of learning was a hassle and provided no benefit. They did not fully understand the meaning of transfer of learning. One leader felt that transfer of learning was an obstruction to continuing to run the business. The leader could not understand how to continue her operations and focus on transfer of learning also.

There were very few examples of companies preparing the environment for employees upon returning from training. One company created a learning environment in weekly staff meetings. This environment made it easy for employees to talk about their training experiences and transfer that knowledge back to the workforce. The human resources professional in another company tried to create a climate conducive to learning by sending emails to participants of project management trainings; these emails were
intended to entice employees to utilize their knowledge and skills in meeting their goals and fulfilling their project management obligations.
CHAPTER 5
SUMMARY, CONCLUSIONS, IMPLICATIONS, AND FUTURE RESEARCH

Introduction

Since the 1960s, the federal government has attempted to find solutions for the lack of skills of the nation’s workforce. The solutions were four national workforce training acts: the Manpower Development and Training Act, the Comprehensive Employment and Training Act, the Job Training Partnership Act, and the Workforce Investment Act. The first three acts were unsuccessful in their missions and vision goals of structuring the workforce to be competent and competitive in a global environment. The primary reason the acts failed was a lack of evaluation studies by the federal government. In the past, the General Accountability Office had conducted audits and found negative issues with each act. The federal government did not follow through with further analysis on the impact of these various training programs on the incumbent worker. The main focus was whether or not the unskilled disadvantaged individual was targeted by the act.

The purpose of this study was to examine the impact of the WEDnetPA funded training programs of selected companies in Pennsylvania. WEDnetPA is the Guaranteed Free Training Program that the state of Pennsylvania makes available as a free training grant to all of the state’s eligible companies in order to provide training and skills to the incumbent workforce. The Guaranteed Free Training Program is part of the current national training act, the Workforce Investment Act. More specifically, the study aimed to describe participants’ experiences with regard to:
1. How has WEDnetPA funded training impacted the knowledge/skill level of the workforce in selected companies in Pennsylvania?

2. How do selected companies in Pennsylvania that have received WEDnetPA funded training place value on or measure WEDnetPA funded training?

3. How does the transfer of learning of WEDnetPA funded training take place in the selected companies?

In-depth interviews with personnel at a total of thirty-nine companies (eight companies during the pilot study and thirty-one companies during the final study) were conducted during the fall semester 2007 for the pilot study and April 2008 to July 2008 for the final study. The researcher also interviewed five WEDnetPA partners and four leaders for the same thirty-one companies in order to enhance credibility and validation for the study. Interviews with each participant were conducted via phone. The entire interview time ranged from 45 minutes to one hour per individual participant. All interviews were transcribed verbatim and coded. At the open coding phase, the NVivo version 7 program was used to label and categorize codes; axial coding and selective coding were conducted by close examination and constant comparison of categories and themes. Previous chapters presented the background and rationale, purpose, research design, detailed description of methodology, and results of this study, including a review of related literature. The purpose of this chapter is to develop the points of discussions drawn from the findings of this study and to suggest recommendations for both future research and practice. A brief review of the study will be discussed first before further points of the overall findings are discussed.
Review of the Study

WEDnetPA has existed from 1999 until the present. The program has provided free training dollars to 11,322 companies employing more than 669,860 workers in Pennsylvania (Workforce & Economic Development Network, 2007, p.4). Pennsylvania has structured its key resources and commodities into nine industry clusters. The foci of this study were the advanced materials and diversified manufacturing and lumber-paper-wood industries.

Gaps exist in both the literature and the historical audits at the government and state levels of grant-funded training programs. This study aimed to bring some closure to and provide an explanation of the importance of conducting impact evaluation studies on grant funded training programs. Further, this study will provide evidence of the successful outcome of conducting impact evaluative studies based on the WEDnetPA funded training grant program in Pennsylvania.

The study adopted a qualitative research methodology with the basis of in-depth, semi-structured interviews following characteristics of Brinkerhoff’s success case method with regard to the design of the interview instrument. Criterion sampling, a form of purposeful sampling, was utilized to recruit the personnel of eight companies in the pilot study, and the personnel of 31 companies in the final study, along with four leaders of the same companies and five WEDnetPA partners in the final study. The criteria for the study were based on companies receiving WEDnetPA funded training in 2006 and/or 2007; companies had to be located in the workforce investment board regions of Lehigh Valley, Southeast, Southcentral, Central, and Southwest; companies had to fit the size requirements for small-, medium-, and large-sized organizations, and companies had to
be classified in the advanced materials and diversified manufacturing and lumber-paper-
wood industry clusters. A criterion for the pilot study was that companies had to have
received business operations and/or communication-teambuilding training under the basic
skills training category in WEDnetPA. The pilot study was conducted during the Fall
2007 semester. The interview instrument for the pilot study and the final study can be
located in Appendices C through F. Interviews ranged, on average, from half an hour to
45 minutes. All interviews were recorded and transcribed verbatim.

Transcribed data coding had four phases: 1) crafting individual profiles- to
understand the background of companies, leaders, and WEDnetPA partners, 2) labeling-
to label each meaning unit and conceptualize it, 3) making connections- to compare
concepts and generate categories of initial open codes, and 4) generating themes- to
create themes based on categories that emerged from initial open coding. To ensure the
study’s quality, various methods were applied: triangulation, member check, peer
examinations, audit trail, raw data, various notes, structure of categories in relation to the
literature, and reflexivity. Details of these various applications appeared in Chapter 3.

Conclusions

This section revisits the themes generated from an analysis of interview narratives
for each research question. Themes will be discussed in depth as the major points of each
theme will be identified and related back to the three research questions. The main appeal
of discussion is to relate study findings to existing literature. Following the discussions,
the implications for future research of the study will be addressed as will
recommendations for practice.
Research Question 1 Conclusion

This question seeks to determine how WEDnetPA funded training has impacted the knowledge/skill level of the workforce with companies that were selected to participate in this study. The key word “impact” refers to the benefits, or possibly the lack of benefits, the companies received from the training. Four themes emerged from the impact of WEDnetPA funded training on companies: 1) changes within the organization, 2) outcomes and manufacturing operations, 3) WEDnetPA provides benefits, and 3) organizations receive training variety.

Quality Control and Lean Manufacturing Concepts. Some organizations saw positive changes with their workforce as a result of WEDnetPA funded training. Employees increased quality control and adopted lean manufacturing principles that have greatly impacted the companies’ efficiency of outputs. One particular company that worked with blueprints previously experienced many complaints of errors from its customers when the blueprints were shipped out. Due to WEDnetPA funded training, the employees learned to develop better quality controls with the blueprint process in-house before the blueprints were sent to the customers. Quality controls consisted of blueprint check sheets and a final review process. With these new quality controls in place, the company experienced very few mistakes, and those mistakes still experienced were minute in nature. Lean manufacturing is a rapidly growing trend with companies in training and development. More companies are implementing the 5S practices and kaizen events into their operations in order to streamline their processes and make production more efficient and effective. During the interview process of the data collection for this study, the researcher found many companies reporting that their employees embraced the
lean manufacturing concepts almost instantaneously and that there was an immediate
transfer of learning upon returning from the training.

*Internal Benefits.* The internal benefits that companies received were value added
to the organization, increased productivity, and promotion of employees. Companies
received many different value added outcomes as a result of employees participating in
training. A few companies saved money because maintenance employees returned from
training and utilized their skills in order to complete repairs in-house instead of
outsourcing the machine parts. In another company the employees became experts in
Microsoft Illustrator and finished all custom label jobs in-house. Further, these
employees also strengthened their rapport with customers because of the increased
customer interaction and direct addressing of customers’ problems and issues. Jack
Phillips discusses the calculation of value added human capital by companies such as the
companies mentioned in the previous examples. The calculation Phillips is addressing is
referred to as the value added human capital coefficient developed by Professor Ante
Pulic from the University of Graz in Austria. Companies can determine value added
human capital by totaling all of the revenues and subtracting non-employee inputs, which
is invested expenses, excluding expenses for payroll and benefits (Phillips, 2005, p.188).
Then the outcome of this equation is divided by the payroll and benefits costs producing
a ratio (Phillips, 2005, p.188). The ratio of value added divided by human capital reflects
how much of the added value has been created by one monetary unit invested in
employees (Phillips, 2005, p.188).

One of the expected outcomes of state-funded based grant training is for
companies to experience increased productivity. Brinkerhoff and Dressler (1990) define
productivity as a ratio in which the output of an effort under investigation is divided by the inputs (labor, energy, etc) required to produce the outputs (p.16). Some of the companies interviewed in this study did encounter increased productivity and two of the WEDnetPA partners attested to witnessing increased productivity for companies. Productivity has always been an important outcome for companies when investing time and money into training efforts. The recession of the 1970s, the oil embargo, and the strength of foreign competition have historically caused management of companies to focus on measuring productivity. Management is most successful in determining productivity outcomes if employees are involved from conception. Involvement of employees in productivity measurement planning and implementation yields a number of benefits, each of which helps to assure a useful measurement effort (Brinkerhoff & Dressler, 1990, p.53). Employees are the most knowledgeable about the details of the job, and are thus best able to conduct the sort of analysis that leads to the identification of critical work dimensions and measures (Brinkerhoff & Dressler, 1990, p.53).

There was evidence of employees being promoted into higher-level positions either as a direct or indirect result of the WEDnetPA funded training. Increased skills and knowledge among the workforce is another expected outcome of state funded grant training. Companies reported employees being promoted from production worker positions on the floor to entry-level supervisory positions. As previously mentioned one company promoted an operator-level employee to a professional salaried position in the IT department. According to Fitz-enz (1995), organizations must invest in themselves in order to enhance their capability for survival and achieve positive results (p.250).
Training helps teach people how to increase their ability to interact, supervise, and be supervised, as well as skills for being more aware and logical (Fitz-enz, 1995, p.250).

*Workforce Ready and Organizational Awareness.* The last two points generated from this research question were workforce ready skills and general organizational awareness. The overall consensus from the participants was that WEDnetPA funded training more than prepared their workforce for increased global demands and a competitive economy. Participants gave the WEDnetPA program high praise and greatly valued the program for its service and purpose. Based on this study, it appeared that an increased number of organizations realized the value and necessity of training their workforces. There were very few companies that conducted training out of obligation. Companies in Pennsylvania must continue to provide their workforces with training, or the adult workforce will continue to suffer at the cost of globalization. According to the National Adult Literacy Survey and the International Adult Literacy Survey, more than two in five U.S. adults had only basic or below-basic prose literacy skills in the 1990s; nearly three in five demonstrated only basic or below-basic math skills (National Center on Education and the Economy, 2007, p.139). The average literacy level of native-born adults in the United States ranked tenth among 17 developed countries, while the literacy of foreign-born adults in the United States ranked sixteenth internationally a mediocre performance in comparison to 19 other developed nations (National Center on Education and the Economy, 2007, p.139).
Research Question 2 Conclusion

The researcher specifically posed this research question to establish company personnel’s views as well as leaders’ views on the value of WEDnetPA funded training, training in general, and measuring training effectiveness. Four themes emerged from companies placing value on or measuring WEDnetPA funded training: 1) overall value, 2) measurement methods, 3) the WEDnetPA funded training program, and 4) funding supports training needs.

Sustainability. The majority of the participants interviewed agreed, as did the leaders, that the leadership of the organizations place value on training. The smaller companies were very grateful to the state for furnishing them with the opportunity to receive free training dollars. Based on the positive outcomes and impact of the training, the leadership of the organizations placed a higher value on the concept of training than before involvement in the WEDnetPA funded program. Due to the credibility of the WEDnetPA program, leadership is more inclined to continue training despite ineligibility for WEDnetPA funds. Many organizations will turn to consortiums in which money from the Department of Labor and Industry will be the funding source. The United States will see the continued erosion of low-skill, routine work and an enormous surge in demand for people with a very high level of foundation skills and great creativity (National Center on Education and the Economy, 2007, p.27). In order to prevail during the era of globalization, companies must continue to invest in their workforces.

Meaning of Measurement. There exists a significant gap among human resource professionals and workplace learning professionals. The gap pertains to a lack of understanding of the meaning of measurement. The interviewer found that the majority of
participants interviewed did not have a clear understanding of the concept of measurement and the benefits of measuring training effectiveness. One participant told the researcher that she did not have to do specific measurements because she walks on the shop floor and hears the operators talk about the training they recently attended. Other human resource and workplace-learning participants told the researcher that they did not fully understand how to initiate evaluation, did not have a large amount of resources or time to conduct evaluation, or couldn’t comprehend the value that the measurement would provide them. Swanson & Holton (1999) contribute their views on the measurement gap with connection to professionals in the human resources and learning field:

We believe that the biggest barriers to results assessment in human resource development are fear of accountability and the inadequate evaluation models and methods that permeate the profession. Many practitioners are afraid to find out whether their interventions really make a difference. By not asking the questions, they do not have to come to grips with their fear that results really are not occurring. A typical workplace scenario consists of the busy human resource development practitioner doing what the company wants, feeling successful, and not being regularly required to prove the added value that results from human resource development contributions. With a full agenda of important development and delivery tasks, the busy professional finds it difficult to measure results. (p.7)
A few professionals remarked that if there existed a user-friendly and simplistic
evaluation model or process evaluation then measurement of training effectiveness may
be more readily performed.

The researcher found three participants out of the thirty-nine participants and four
leaders that understood the meaning of measurement and conducted evaluation studies.
Most participants could not identify the intent and purpose of return on investment.
Sanders (1989) agreed stating, “A large portion of the training in business settings is
evaluated by persons with very little or no formal education in program evaluation.
Evaluation of training is often conducted by trainers themselves (who have, on the
average, less education about and experience with program evaluation) and by
stakeholders of the trainers, for example, target audience managers or company
executives (who have even less background experience with evaluation of training
programs)” (p.59). Human resource professionals and workplace learning professionals
need to arrive at the realization that the role of evaluation is to ensure that training
resources are effectively deployed to best serve strategic needs, and that training
operations deliver optimum value (Brinkerhoff, 1989, p.19).

Research Question 3 Conclusion

Transfer of learning is a vital component of measuring training effectiveness. The
researcher wanted to specifically ask participants if they conduct transfer of learning and,
if transfer of learning did occur how is it conducted. Four themes evolved from transfer
of learning within the selected companies: 1) barriers to transfer of learning, 2)
employees transfer of learning, 3) management transfer of learning, and 4) organizational
climate.
Train the Trainer. The researcher saw a trend of companies utilizing “train the trainer.” Companies embracing the train the trainer philosophy demonstrated transfer of learning. Managers send one or two employees to training and then impose the expectation of the employee being train the trainer once the employee returns to the company. Train the trainer also saves the company money because the company does not have to send additional employees to the same training. Due to financial restraints, smaller companies that participated in this study appeared to rely on train the trainer more than other sized companies. Small businesses may even value on-the-job training more than formal training due to salary expenses linked to one-on-one training being a sizable investment for these companies (Rothwell & Kazanas, 2004, p.6). Train the trainer becomes on-the-job training for new employees joining the company and existing employees. Participants spoke about train the trainer occurring for trainings such as forklift training, lean manufacturing, Microsoft products, and Auto CAD. Rothwell and Kazanas (2004) comment regarding on-the-job training:

The quality of an organization’s on-the-job training directly impacts how quickly workers can be retrained to meet swiftly changing workplace demands, how satisfied workers feel about their jobs and working conditions, how workers perceive organizational management, how well-equipped workers are to make quality products or offer quality service, how well the organization manages the transfer of knowledge from one generation of workers to their successors, and how well-prepared workers are to adapt to new technology. (pp.6-7)
There are many factors to look at when discussing on-the-job training, as Rothwell and Kazanas mentioned, however, the researcher wants to make reference to on-the-job training, as this was a finding in the research.

*Facilitating.* Management either became an integral part of transfer of learning or they chose not to integrate themselves in the transfer of learning process with their employees. Management’s involvement in the transfer of learning process is a key ingredient to transfer of learning success. The researcher experienced first-hand those companies that talked about their involvement in the transfer of learning process and the successes that soon followed in the return. The management and leadership of these organizations not only embraced the transfer of learning, but also seized the opportunity to recognize employees with “celebrations” such as free lunches, extra vacation days, or a special parking spot. Celebrations and recognition increased employee morale and satisfaction with the company because employees felt the companies’ gratitude for their hard work and dedication to doing a quality job that would please customers. According to Broad and Newstrom (1992), managers decide to increase their involvement and understanding of transfer of learning for the following reasons:

- Many managers now realize that previous training investments have not paid off in transfer of skills and improved job performance because of lack of attention
- Managers recognize that a skilled, flexible workforce is essential for success in today’s highly competitive global economy.
Managers see the human resource development function’s direct impact on improving productivity and competitiveness and have linked it directly with formation and implementation of their strategic plans. (p.35)

There are a few prescribed methods that management can pursue in order to prosper in the transfer of learning process in their organizations. Broad and Newstrom (1992) present a hearty list for management: (1) build transfer of training into supervisory performance standards, (2) collect baseline performance data, (3) involve supervisors and trainees in needs analysis procedures, (4) provide orientation for supervisors, (5) involve trainees in program planning, (5) brief trainees on the importance of the training and on course objectives, content, process, and application to the job, (6) provide supervisory coaching skills, (7) provide time to complete pre-course assignments, (8) offer rewards and promotional preference to trainees who demonstrate new behaviors, (9) arrange conferences with prior trainees, (10) send co-workers to training together, (11) provide a positive training environment (timing, location, facilities), (12) plan to participate in training sessions, (13) encourage trainee attendance at all sessions, and (14) develop a supervisor/trainee contract (pp.60-71). Participants reported that management in their organizations did adhere to some of Broad and Newstrom’s suggestions. In one company, leadership attended the training alongside employees and then gave a motivating speech regarding the importance of training and employees’ roles in the organization. Another leader approached the facilitator of the training and inquired about drafting a contract for his supervisors to transfer the knowledge when they returned to the organization. There were two companies that are currently restructuring their performance standards to make
supervisors accountable for the training and development for the workforce that the supervisors direct.

Recommendations for Future Research

Based on the literature and the state of Pennsylvania documentation archives, this study appeared to be the first evaluative impact study completed on training programs funded through the Guaranteed Free Training Program in Pennsylvania (WEDnetPA). Given the results and findings of this study, much valuable information was discovered. Thus, a recommendation would be for other states to conduct similar evaluative impact studies on the training programs they fund for companies with state dollars. There is a vital need for evaluative impact studies to be conducted across the country in a consistent manner to determine which training programs are working effectively, which training programs are not working effectively, the need for new training programs in order to continue to address the workforce’s lack of skills and knowledge, and to provide different industries in this country with a highly skilled workforce in order to meet each industry’s needs. In 2001, over one-third of applicants for jobs with larger American employers were reported to have lacked the literacy and/or math skills necessary to perform the jobs they sought (National Center on Education and the Economy, 2007, p.139). According to the National Center on Education and the Economy (2007), U.S. investments in the basic education of adults are solely inadequate (p.140).

The federal government and states invest a sizable amount of money yearly in the cause of workforce education and development and more research needs to be focused on determining whether a return on investment occurred or did not occur. The federal government invests just over $500 million in adult basic education, and states are
required to provide at least a 25% match in dollars or resources (National Center on Education and the Economy, 2007, p.140). Based on these figures, the National Center on Education and the Economy (2007) states that the total investment provides services to fewer than 3 million adults each year (p.140). That being said, the federal government has just as much, or perhaps more, accountability than the states for conducting evaluative impact studies. The GAO continues to conduct audits on the Workforce Investment Act to determine validity of the act. The GAO’s audit studies only demonstrate whether the act is proceeding by means of encouraging collaboration between the workforce and economic development efforts in all fifty states and regions (National Center on Education and the Economy, 2007, p.143). An impact study would provide results deeper than the surface results provided by an audit.

Another focus of the impact study could be whether or not company leaders are becoming “addicted” to free state money to provide training. This study did attempt to seek out whether or not company leaders valued training and if they would self-fund training when training grants were not available from the state or government. This researcher did find a mix of responses from company personnel and leaders where training was valued and continued without funding and training only occurred when the company qualified for free grant money. Based on the responses, this would be an area for further research.

An additional recommendation for future research would be for this researcher to conduct another research study focusing on an actual ROI of a specific training program in a particular company. Conducting an ROI study would result in the state receiving quantifiable data in addition to the qualitative data from this study. Combined outcomes
from both studies would provide powerful and convincing results to the legislative bodies in the state when making perplexing decisions about whether to expand the Guaranteed Free Training Program or eliminate the program.

A final recommendation would be for additional studies to be completed expanding into other regions of Pennsylvania and different industry clusters in order to compare the results and determine generalizability.

Recommendations for Practice

The recommendations for practice are suggestions for the operation of the WEDnetPA program under the Guaranteed Free Training Program. A finding from the study was a lack of a consistent connection between the WEDnetPA partners and the companies receiving WEDnetPA funded training. Some WEDnetPA partners do continue contact with the company post-training, however, most WEDnetPA partners appear to not stay in contact with the company once the training event has been implemented. The company sends the appropriate remaining paperwork into the state for final reimbursement. Recommendation would be for WEDnetPA partners to increase contact with companies post training. There needs to be an improvement in the customer service approach between WEDnetPA partners and companies.

As has been seen in this study, the majority of companies, along with WEDnetPA partners, do not conduct evaluation-based measurement studies on training effectiveness or needs assessments initially. A recommendation is for the state of Pennsylvania to institute in the Guaranteed Free Training Program a requirement for a needs assessment and an evaluative impact study to be performed by companies with the assistance of the
state and WEDnetPA partners. Since the WEDnetPA partners work with the WEDnetPA program as only one of their many job functions, the accountability shall lie with the state. The state needs to provide education on the concepts of evaluation and assessment for companies and WEDnetPA partners.

Another recommendation would be for the state to require companies to complete evaluations thirty, sixty, and ninety days post- WEDnetPA training or the companies will not be permitted to obtain additional funding. Companies would learn a great deal of training effectiveness and value of training on the workforce from the outcome of the evaluations. A step further would be for the federal government to require all states and workforce investment boards to conduct evaluation studies on federal and state funded training programs under the Workforce Investment Act. The federal government needs to collaborate with evaluation and assessment experts such as Phillips & Phillips, Kirkpatrick, Brinkerhoff, Swanson, Holton, and Fitz-enz to possibly develop a standard evaluation and assessment measurement tool.

Summary

A discussion of the research results and findings were presented. The discussion evolved around the three research questions of the study. The main points of each research question were introduced and examined. In addition, recommendations were provided for future research and practice. The study produced results that addressed each research question with answers that related to the literature. Overall, the results proved the success of the WEDnetPA funded training program and provided positive as well as negative feedback regarding the impact of the program and the program operations.
References


funded training (pp. 293-333). Washington, DC: The Urban Institute Press.


influencing the training and development field in the USA. *International Journal of
Training and Development, 3*(1), 44-53.

establish and operate a comprehensive OJT program* (2nd ed.). San Francisco: Pfeiffer.


Schone, P. (2007). Does increased international competition increase the need for

Factors affecting motivation to transfer training. *International Journal of Training and
Development, 2*(1), 2-16.


five years: Results from the national evaluation of the implementation of WIA.*


Appendix A

Positivist Paradigm Description

This study followed two philosophical assumptions ontological and methodological. The positivist approach follows the scientific method in which theoretical frameworks are already established and the truth comes from interviewing the participants. The scientific method involves systematic observation and description of phenomena contextualized within a model or theory (Ponterotto, 2005, p.128). The primary goal of the positivist approach is an explanation that leads to prediction and control of phenomena (Ponterotto, 2005, p.128).

The philosophical assumption of ontology seeks to answer, what the form and nature of reality is and what can be known about that reality (Ponterotto, 2005, p.130). Creswell (2007) defines ontology as “relating to the nature of reality and its characteristics” (p.16). Denzin and Lincoln (2005) define methodology as “the best means for acquiring knowledge about the world” (p.183). Creswell views methodology as the procedures of qualitative research in which questions may have to be revised as the study proceeds in order to collect data. Sometimes the research questions change in the middle of the study to reflect better the types of questions needed to understand the research problem (Creswell, 2007, p.19).

Positivists believe that there exists only one true reality that is apprehendable, identifiable, and measurable (Ponterotto, 2005, p.129). They also believe their approach is the best approach to discover the world and then predict it (Farmer & Rojewski, 2001, p.109). Broido and Manning (2002) cite the five foundational beliefs of a positivist: (1) the world exists in an objectively knowable, singular, natural law-abiding reality; (2) the goal of science is to predict and control in ways that apply across all contexts; (3) reality
is both singular and real in such a way that it can be measured and predicted; (4) the
researcher is distant and removed from her or his subjects; and (5) research can be
conducted in such a way that the researcher’s or others’ values do not affect the objective
findings of the research (p. 435) Positivists seek to explain and predict what happens in
the social world by searching for regularities and casual relationships among its
constituent elements (Burrell & Morgan, 1979, p.5).

A theoretical framework is known for this study. Also, a reality about WEDnetPA
funded training and the impact that the training can impose on organizations and the
workforce is clear. Through utilization of the positivist approach, there will be a
projection of what will occur as a result of WEDnetPA funded training. There will be
projections made of the impact of the training on the organizations and workforce in
regard to efficient productivity and outcomes. In order to give an explanation and
projection, open-interviews were conducted with company representatives who
experienced the WEDnetPA funded training.
## Appendix B

### NAICS Code and Targeted Cluster or Targeted Sub-Cluster

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<th>NAICS Code</th>
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<tr>
<td>332111</td>
<td>Iron &amp; Steel Forging</td>
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<tr>
<td>321918</td>
<td>Other Millwork Including Forging</td>
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<td>Truck Trailer Manufacturing</td>
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<td>Non-Residential Electric Lighting Fixture Manufacturing</td>
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Appendix C

Qualitative Instrument for WEDnetPA Impact Pilot Study

Anita Whiteford

Instrument Question #1-
Describe to me in your opinion the productivity results your organization received from WEDnetPA funded training?

Instrument Question #2-
Please share with me specific organizational changes that have occurred as a result of WEDnetPA funded training.

Instrument Question #3-
Explain to me the value that you believe the leadership in your organization places on providing training opportunities to the workforce such as training funded through WEDnetPA?

Instrument Question #4-
Explain to me one or two specific measures you are taking as an organization to evaluate the long-term and short-term utilization of WEDnetPA funded training among your workforce?

Instrument Question #5-
Give me specific examples of how WEDnetPA funded training differs from other types of training you offer in the organization?

Instrument Question #6-
Give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their work areas?

Instrument Question #7-
Describe to me the action plan the organization has in place to encourage transfer of learning? (Interviewer may have to define what is meant by transfer of learning to interviewee)

Instrument Question #8-
What specific measurements does the organization utilize in determining if transfer of learning occurred?

Instrument Question #9-
Describe your experience with the WEDnetPA process overall.
Appendix D

Qualitative Instrument for WEDnetPA Impact Final Study

Anita Whiteford

(Participants)

**Instrument Question #1**

Please describe to me in your opinion the type of results or benefits your organization received from WEDnetPA funded training.

**Instrument Question #2**

Please share with me specific organizational changes that have occurred as a result of WEDnetPA funded training.

**Instrument Question #3**

Please explain to me the value and importance that you believe the leadership in your organization places on providing training opportunities to the workforce such as training funded through WEDnetPA?

**Instrument Question #4**

Please explain to me the process you go through to identify and select the appropriate training for your workforce.

**Instrument Question #5**

Please give me specific measurements that the organization utilizes in determining if employees transferred skills and knowledge learned in the training back at the work site.

**Instrument Question #6**

Please give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their work areas.

**Instrument Question #7**

Please describe to me how leadership encourages transfer of learning with employees once they return from training.

**Instrument Question #8**

Please describe to me your experience both positive and negative aspects with the WEDnetPA process overall.
Appendix E

Qualitative Instrument for WEDnetPA Impact Final Study (Leaders)

Anita Whiteford

(Leaders)

**Interview Question #1**
Please describe to me in your opinion the type of results or benefits your organization received from WEDnetPA funded training.

**Interview Question #2**
Please share with me specific organizational changes that your organization received as a result of participating in WEDnetPA funded training.

**Interview Question #3**
Please explain to me the value and importance that you as a leader places on providing training opportunities to your workforce such as training funded through WEDnetPA.

**Interview Question #4**
How does your organization measure employees’ transferring skills and knowledge learned in the WEDnetPA funded training back at the work site?
Appendix F

Qualitative Instrument for WEDnetPA Impact Final Study (Partners)

Anita Whiteford

(Partners)

**Interview Question #1**
Please describe to me the type of results or benefits that you see organizations receiving as the outcome of participating in WEDnetPA funded training.

**Interview Question #2**
Please share with me specific organizational changes that organizations have made as a result of receiving WEDnetPA funded training.

**Interview Question #3**
Please explain to me the value and importance that the organization as a whole places on WEDnetPA funded training and the participants attending the training.

**Interview Question #4**
Please explain to me the specific measurements and/or methods that organizations utilize to determine if transfer of learning and results were achieved at the work site.
INFORMED CONSENT FORM FOR SOCIAL SCIENCE RESEARCH (Pilot Study)
The Pennsylvania State University

Title of Project: Measuring the Impact and Value of Training Programs: A Qualitative Study of Workforce & Economic Development Network in Pennsylvania (WEDnetPA)

Principal Investigator: Anita Pane Whiteford
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Advisor: William J. Rothwell, Ph.D.
301 Keller Building
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1. Purpose of the Study: The purpose is to conduct a pilot study researching the impact/evaluation of training programs offered by the state of Pennsylvania referred to as WEDnetPA to organizations. There is interest by two parties, WEDnetPA and this researcher in determining the value and benefits of WEDnetPA training dollars spent on training organizations in the manufacturing industry.

2. Procedures to be followed: You will be asked to answer 9 open-ended questions in this interview as listed below:
   1.) Describe to me in your opinion the productivity results your organization received from WEDnetPA funded training?
   2.) Please share with me specific organizational changes that have occurred as a result of WEDnetPA funded training.
   3.) Explain to me the value that you believe the leadership in your organization places on providing training opportunities to the workforce such as training funded through WEDnetPA?
   4.) Explain to me one or two specific measures you are taking as an organization to evaluate the long-term and short-term utilization of WEDnetPA training among your workforce?
   5.) Please give me specific examples of how WEDnetPA funded training differs from other types of training you offer in the organization?
   6.) Please give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their work areas?
   7.) Describe to me the action plan the organization has in place to encourage transfer of learning?
   8.) What specific measurements does the organization utilize in determining if transfer of learning occurred?
   9.) Describe your experience with the WEDnetPA process overall.

The interview will be tape recorded. The purpose of recording the interview is to ensure that exact words are captured and used in the study rather than paraphrasing your words. You may at any point during the interview, decline to answer a question, request that the recording be turned off, or terminate the interview. After the interview, you may receive a phone call from the researcher for additional information regarding the previous interview. Also, you will receive the transcription of your interview from the researcher for the purpose of your review or comments.

3. Benefits: The results of this pilot study will give feedback to WEDnetPA in regards to how beneficial/non-beneficial and valuable/non-valuable the training was to your organization. Also, you can provide feedback on the WEDnetPA process as a whole and can be a change agent in improving the system if needed.
4. **Duration/time:** The interview is expected to last approximately an hour. The review of the transcription will take less than ten minutes.

5. **Statement of Confidentiality:** If this research is published, no information that would identify you or your organization will be written. The interview will be recorded and the files will be kept confidentially on the researcher’s personal computer files. The files will be password protected by accessing it with a password only of which the research will be the only one with the password. All computer files will be deleted after being transcribed into text. If an issue would arise with this study, it is possible our office and/or IRB may need to look at research records and become aware of the participants’ identity. Anita Pane Whiteford will have access to the recordings. The recordings will be destroyed three years after the close of the study per the federal regulations.

6. **Right to Ask Questions:** You can ask questions about this research. Contact Anita Pane Whiteford at (570) 730-9540 with questions.

7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

   - [ ] I give my permission to be audio taped.
   - [ ] I do not give my permission to be audio taped.

You must be 18 years of age or older to consent to be in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below.

When returning this form via **mail,** please print your name, sign your name, and provide date and mail to

Anita Pane Whiteford  
PO Box 222  
Pocono Pines, PA 18350

You will be given a copy of this signed and dated consent form for your records via mail.

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Appendix H

INFORMED CONSENT FORM FOR SOCIAL SCIENCE RESEARCH (Final Study)
The Pennsylvania State University

Title of Project: Measuring the Impact and Value of Training Programs: A Qualitative Study of Selected Programs in the Workforce & Economic Development Network in Pennsylvania (WEDnetPA)

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Email: wjr9@psu.edu

1. Purpose of the Study: The purpose is to conduct a qualitative study researching the impact/evaluation of training programs offered by the state of Pennsylvania referred to as WEDnetPA to organizations. There is interest by two parties, WEDnetPA and this researcher in determining the value and benefits of WEDnetPA training dollars spent on training organizations in the manufacturing industry.

2. Procedures to be followed: You will be asked to answer 8 open-ended questions in this interview as listed below:

1.) Please describe to me in your opinion the type of results or benefits your organization received from WEDnetPA funded training.
2.) Please share with me specific organizational changes that have occurred as a result of WEDnetPA funded training.
3.) Please explain to me the value and importance that you believe the leadership in your organization places on providing training opportunities to the workforce such as training funded through WEDnetPA.
4.) Please explain to me the process you go through to identify and select the appropriate training for your workforce.
5.) Please give me specific measurements that the organization utilizes in determining if employees transferred skills and knowledge learned in the training back at the work site.
6.) Please give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their work areas.
7.) Please describe to me how leadership encourages transfer of learning with employees once they return from training.
8.) Please describe to me your experience both positive and negative aspects with the WEDnetPA process overall.

The interview will be tape recorded. The purpose of recording the interview is to ensure that exact words are captured and used in the study rather than paraphrasing your words. You may at any point during the interview, decline to answer a question, request that the recording be turned off, or terminate the interview. After the interview, you may receive a phone call from the researcher for additional information regarding the previous interview. Also, you will receive the transcription of your interview from the researcher for the purpose of your review or comments.
3. **Benefits:** The results of this qualitative study will give feedback to WEDnetPA in regards to how beneficial/non-beneficial and valuable/non-valuable the training was to your organization. Also, you can provide feedback on the WEDnetPA process as a whole and can be a change agent in improving the system if needed.

4. **Duration/time:** The interview is expected to last approximately an hour. The review of the transcription will take less than ten minutes.

5. **Statement of Confidentiality:** If this research is published, no information that would identify you or your organization will be written. The interview will be recorded and the files will be kept confidentially on the researcher’s personal computer files. The files will be password protected by accessing it with a password only of which the research will be the only one with the password. All computer files will be deleted after being transcribed into text. Anita Pane Whiteford will have access to the recordings. The recordings will be destroyed three years after the close of the study per the federal regulations.

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7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

- I give my permission to be audio taped.
- I do not give my permission to be audio taped.

You must be 18 years of age or older to consent to be in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below.

When returning this form via mail, please print your name, sign your name, and provide date and mail in the enclosed postage paid envelope to:

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INFORMED CONSENT FORM FOR SOCIAL SCIENCE RESEARCH (Leaders)
The Pennsylvania State University

Title of Project: Measuring the Impact and Value of Training Programs: A Qualitative Study of Selected Programs in the Workforce & Economic Development Network in Pennsylvania (WEDnetPA)

Principal Investigator: Anita Pane Whiteford
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1. Purpose of the Study: The purpose is to conduct a qualitative study researching the impact/evaluation of training programs offered by the state of Pennsylvania referred to as WEDnetPA to organizations. There is interest by two parties, WEDnetPA and this researcher in determining the value and benefits of WEDnetPA training dollars spent on training organizations in the manufacturing industry.

2. Procedures to be followed: As the leader of your organization, you will be asked to answer 4 open-ended questions in this interview as listed below:
   1.) Please describe to me in your opinion the type of results or benefits your organization received from WEDnetPA funded training.
   2.) Please share with me specific organizational changes that your organization received as a result of participating in WEDnetPA funded training.
   3.) Please explain to me the value and importance that you as a leader places on providing training opportunities to your workforce such as training funded through WEDnetPA.
   4.) How does your organization measure employees’ transferring skills and knowledge learned in the WEDnetPA funded training back at the work site?

The interview will be tape recorded. The purpose of recording the interview is to ensure that exact words are captured and used in the study rather than paraphrasing your words. You may at any point during the interview, decline to answer a question, request that the recording be turned off, or terminate the interview. After the interview, you may receive a phone call from the researcher for additional information regarding the previous interview. Also, you will receive the transcription of your interview from the researcher for the purpose of your review or comments.

3. Benefits: The results of this qualitative study will give feedback from the perspective of a leader in regards to how beneficial/non-beneficial and valuable/non-valuable the training was to the organization receiving WEDnetPA funding.

4. Duration/time: The interview is expected to last approximately an hour. The review of the transcription will take less than ten minutes.
5. **Statement of Confidentiality:** If this research is published, no information that would identify you or your organization will be written. The interview will be recorded and the files will be kept confidentially on the researcher’s personal computer files. The files will be password protected by accessing it with a password only of which the research will be the only one with the password. All computer files will be deleted after being transcribed into text. Anita Pane Whiteford will have access to the recordings. The recordings will be destroyed three years after the close of the study per the federal regulations.

6. **Right to Ask Questions:** You can ask questions about this research. Contact Anita Pane Whiteford at (570) 730-9540 with questions.

7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer.

- I give my permission to be audio taped.
- I do not give my permission to be audio taped.

You must be 18 years of age or older to consent to be in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below.

When returning this form via **mail**, please print your name, sign your name, and provide date and mail in the enclosed postage paid envelope to:

Anita Pane Whiteford  
PO Box 222  
Pocono Pines, PA 18350

You will be given a copy of this signed and dated consent form for your records via mail.

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INFORMED CONSENT FORM FOR SOCIAL SCIENCE RESEARCH (Partners)
The Pennsylvania State University

Title of Project: Measuring the Impact and Value of Training Programs: A Qualitative Study of Selected Programs in the Workforce & Economic Development Network in Pennsylvania (WEDnetPA)

Principal Investigator: Anita Pane Whiteford
PO Box 222
Pocono Pines, PA 18350
Phone: (570) 730-9540
Fax: (570) 643-6393
Email: apw129@psu.edu

Advisor: William J. Rothwell, Ph.D.
301 Keller Building
University Park, PA 16801
Phone: (814) 863-2581
Fax: (814) 863-7532
Email: wjr9@psu.edu

1. Purpose of the Study: The purpose is to conduct a qualitative study researching the impact/evaluation of training programs offered by the state of Pennsylvania referred to as WEDnetPA to organizations. There is interest by two parties, WEDnetPA and this researcher in determining the value and benefits of WEDnetPA training dollars spent on training organizations in the manufacturing industry.

2. Procedures to be followed: As a WEDnetPA partner you will be asked to answer 4 open-ended questions in this interview as listed below:

   1.) Please describe to me the type of results or benefits that you see organizations receiving as the outcome of participating in WEDnetPA funded training.
   2.) Please share with me specific organizational changes that organizations have made as a result of receiving WEDnetPA funded training.
   3.) Please explain to me the value and importance that the organization as a whole places on WEDnetPA funded training and the participants attending the training.
   4.) Please explain to me the specific measurements and/or methods that organizations utilize to determine if transfer of learning and results were achieved at the work site.

The interview will be tape recorded. The purpose of recording the interview is to ensure that exact words are captured and used in the study rather than paraphrasing your words. You may at any point during the interview, decline to answer a question, request that the recording be turned off, or terminate the interview. After the interview, you may receive a phone call from the researcher for additional information regarding the previous interview. Also, you will receive the transcription of your interview from the researcher for the purpose of your review or comments.

3. Benefits: The results of this qualitative study will give feedback from the perspective of a WEDnetPA partner in regards to how beneficial/non-beneficial and valuable/non-valuable the training was to the organization receiving WEDnetPA funding.
4. **Duration/time:** The interview is expected to last approximately an hour. The review of the transcription will take less than ten minutes.

5. **Statement of Confidentiality:** If this research is published, no information that would identify you or your organization will be written. The interview will be recorded and the files will be kept confidentially on the researcher’s personal computer files. The files will be password protected by accessing it with a password only of which the research will be the only one with the password. All computer files will be deleted after being transcribed into text. Anita Pane Whiteford will have access to the recordings. The recordings will be destroyed three years after the close of the study per the federal regulations.

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WEDnetPA Qualitative Dissertation Study

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# Company B

**Large Company, Lehigh Valley Region, Manufacturing**

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Source Summary Report

Page 1 of 1
Appendix N

Free Code Example Final Study

They (employees) have a spotlight chart for each quarter where they (employees) should be at and they (employees) had training before they (employees) started their (employees) groups with the team leaders with the management champions having effective teams what are some of the tools of determining root cause and even when we were saying about that we had WEDnet training if there was one course that we were not sure of that has some beneficial effects that we don’t believe had the best so that is another thing that they (employees) are tackling on this (action) team. The courses that we are looking into are the ones (courses) that are really going to help affect our bottom line. So these action teams report results, from getting down to root causes to making suggestions on actions to improve and they (action teams) are shared back to management and out to the employees also to get their (employees) input. (Work Process of Action Teams) [Training Plan]
Appendix O

External Coder’s Code Summary

Coding Summary for WEDnetPA Project

1. Benefits
   a. Company
   b. Employee
   c. Community
   d. State

2. Professional / Personal Skill Development
   a. Communications
   b. Technical
   c. New Skills

3. Employee Promotion

4. Retention
   a. Employee
   b. Company

5. Training Plan

6. Training Impact

7. Satisfaction
   a. Employee
i. Feeling Valued

ii. Feel Appreciated

iii. Feel Invested In

iv. Quality of life (Retain good job)

b. Company Leadership

8. Allows for Innovation

9. Helps Company Leaders See value of training (especially in small companies with no training budget)

10. Access to Training

11. Opportunities for both company and employee

12. Helps create competitive advantage - Globalization

13. Empowerment

14. Cross Training

15. Evaluation & Measurement (ROI)
   a. Needs Assessment
   b. Program Evaluation
   c. Transfer of Learning
16. Improvements
   a. Efficiency
   b. Process
   c. Workplace
   d. Quality
   e. Sales Proficiency
   f. Profitability

17. Small vs. Large Company
   a. Training budget (usually only larger companies)
   b. Tough times, training monies important

18. Partner Commitment
   a. Good Company Relationships
   b. Ease of Access to Program for Employer
   c. Contact Companies

19. Customer Satisfaction
   a. Meeting Schedules

20. Miscellaneous
   a. Price of Raw Materials
   b. Global Competition
   c. HR manager responsible for training
   d. Niche Training Needs
e. Other Funding Opportunities

ID WEDnet Benefits and Problems – Provide Recommendations for Solutions
Appendix P

Member Check Forms- Pilot Study

Perceptions of Impact/Evaluation of WEDnetPA Training Programs.

I have reviewed the transcript of my input in this study and agree that the identified passages contains the significant concepts reflecting my perception to the question asked

__________________________________________________________
Please sign your name

__________________________________________________________
Please print your name

Additional Comments

Question 1:

Describe to me in your opinion the productivity results your organization received from WEDnetPA training?

Question 2:

Please share with me specific organizational changes that have occurred as a result of WEDnetPA training.

Question 3:

Explain to me the value that you believe the leadership in your organization places on providing training opportunities to the workforce such as WEDnetPA?

Question 4:

Explain to me one or two specific measures you are taking as an organization to evaluate the long-term and short-term utilization of WEDnetPA training among your workforce?

Question 5:

Give me specific examples of how WEDnetPA training differs from other types of training you offer in the organization?
Question 6:

Give me example(s) of how workers in your organization have utilized the training they received back in their work areas?

Question 7:

Describe to me the action plan the organization has in place to encourage transfer of learning?

Question 8:

What specific measurements does the organization utilize in determining if transfer of learning occurred?

Question 9:

Describe your experience with the WEDnetPA process overall.

Other comments:

If returning this form via email, please sign and return it to apw129@psu.edu.
If returning this form via fax, please sign and return it to (570) 643-0390, Attn: Anita Whiteford.
If returning this form via mail, please sign and return it to
Anita Whiteford
PO Box 222
Pocono Pines, PA 18350
Appendix Q

Member Check Forms- Participants

Perceptions of Impact/Evaluation of WEDnetPA Training Programs.

I have reviewed the transcript of my input in this study and agree that the identified passages contains the significant concepts reflecting my perception to the question asked

Please sign your name

Please print your name

Additional Comments

Question 1:

Please describe to me in your opinion the type of results or benefits your organization received from WEDnetPA funded training.

Question 2:

Please share with me specific organizational changes that have occurred as a result of WEDnetPA funded training.

Question 3:

Explain to me the value and importance that you believe the leadership in your organization places on providing training opportunities to the workforce such as training funded through WEDnetPA.

Question 4:

Please explain to me the process you go through to identify and select the appropriate training for your workforce.

Question 5:

Please give me specific measurements that the organization utilizes in determining if employees transferred skills and knowledge learned in the training back at the work site.
Question 6:

Please give me example(s) of how workers in your organization have utilized the WEDnetPA funded training they received back in their work areas.

Question 7:

Please describe to me how leadership encourages transfer of learning with employees once they return from training.

Question 8:

Please describe to me your experience both positive and negative aspects with the WEDnetPA process overall.

Other comments:

Return this form via mail, please sign and return it in the enclosed postage paid envelope to:

   Anita Whiteford  
   PO Box 222  
   Pocono Pines, PA 18350
Appendix R

Member Check Forms- Leaders

Perceptions of Impact/Evaluation of WEDnetPA Training Programs.

I have reviewed the transcript of my input in this study and agree that the identified passages contains the significant concepts reflecting my perception to the question asked.

__________________________________________  ____________________________
Please sign your name    Please print your name

Additional Comments

Question 1:

Please describe to me in your opinion the type of results or benefits your organization received from WEDnetPA funded training.

Question 2:

Please share with me specific organizational changes that your organization received as a result of participating in WEDnetPA funded training.

Question 3:

Explain to me the value and importance that you as a leader places on providing training opportunities to your workforce such as training funded through WEDnetPA.

Question 4:

How does your organization measure employees’ transferring skills and knowledge learned in the WEDnetPA funded training back at the work site?

Other comments:
Return this form via mail, please sign and return it in the enclosed postage paid envelope to:

Anita Whiteford
PO Box 222
Pocono Pines, PA 18350
Appendix S

Member Check Forms- Partners

Perceptions of Impact/Evaluation of WEDnetPA Training Programs.

I have reviewed the transcript of my input in this study and agree that the identified passages contains the significant concepts reflecting my perception to the question asked

__________________________________________________________  ____________________________________________
Please sign your name                                        Please print your name

Additional Comments

Question 1:

Please describe to me the results or benefits that you see organizations receiving as the outcome of participating in WEDnetPA funded training.

Question 2:

Please share with me specific organizational changes that organizations have made as a result of receiving WEDnetPA funded training.

Question 3:

Explain to me the value and importance that the organization as a whole places on WEDnetPA funded training and the participants attending the training.

Question 4:

Please explain to me the specific measurements and/or methods that organizations utilize to determine if transfer of learning and results were achieved at the work site.

Other comments:

200
Return this form via mail, please sign and return it in the enclosed postage paid envelope to:

Anita Whiteford
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Pocono Pines, PA 18350
Appendix T

Example of Code Note

I would say that everyone (employees) understands the value of ongoing education.
(Workforce Value Training) [General Value]
Appendix U

Permission Letters
Thank you for your request to reprint the following material Table 1: "Eligibility Standards for Selected CETA Programs," pp. 173, from "Explaining Benefit Distribution in CETA Programs," Volume 14.2 (1979) by Donald C. Baumer, Carl E. Van Horn, and Mary Marvel from our journal, *Journal of Human Resources*, in your Doctoral Dissertation "Measuring the Impact and Value of Training Programs: A Qualitative Study of Selected Programs In the Workforce and Economic Development Network in Pennsylvania (WEDnetPA)", to be published by The Pennsylvania State University.

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kmcoulson@wis.ac.edu
Fed Tax ID #39-1805983
Anita Whiteford  
PO Box 222  
Pocono Pines, PA 18350  

August 5, 2008  

Ms. Margaret Walsh  
Subsidiary Rights & Permissions Editor  
The Journal of Human Resources  
The University of Wisconsin Press, Journals Division  
1930 Monroe Street  
Madison, WI 53711-2059  

Dear Ms. Walsh:  


The excerpts to be reproduced are:

Table 1

**Eligibility Standards for Selected CETA Programs**

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| Title I (Comprehensive Service) December 1973 | 1. Unemployed for 7 days; or,  
2. Underemployed (working part-time, seeking full-time work, or earning less than poverty income at full-time work); or  
3. Economically disadvantaged (having less than poverty income [$5,850 for a nonfarm family of 4] or receiving cash welfare aid). |
| Title II               | 1. Unemployed for 30 days; or                                                        |

205
2. Underemployed (as above); and,
3. Residing in an area of substantial unemployment in the prime sponsorship (i.e., an area of 10,000 residents with 6.5% unemployment for 3 consecutive months).

Title IV
(Emergency Jobs Program)
December 1974
“Regular PSE”
1. Unemployed for 30 days; or,
2. Unemployed for 15 days and residing in an area of “excessive unemployment” (7% for 3 consecutive months during the year).
3. Underemployed (as above).

Amended Title IV
October 1976
“Project PSE”
1. Economically disadvantaged and one of the following:
   a. Unemployed 15 of 20 weeks prior to application.
   b. Receiving UI for 15 of 20 weeks prior to application.
   c. Unemployed and UI exhaustee.
   d. Receiving cash welfare.
   e. Veteran.

Source: CETA Regulations, Federal Register.

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If these arrangements meet with your approval, please sign this letter where indicated below and fax it back to me at (570) 643-0393. Thank you very much.

Sincerely,

[Signature]

Anita Whiteford

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The Journal of Human Resources
The University of Wisconsin Press, Journals Division

By: __________________________

Title: _________________________

Date: _________________________
Fax

To: Anita Whiteford
From: Rich Wynva

Fax: 1-570-643-0393
Pages: 2

Phone: Date: 07-17-03

Dear Anita:

We are glad to grant you permission to use the table from "Job Training Policy in the United States" in your dissertation under the terms of your request.

In addition, I'd like to remind you that the Upjohn Institute supports a yearly Dissertation Award program for PhD dissertations on labor-related issues. The 2008 Award will be chosen from entrants who had their dissertations accepted during the period of July 1, 2007 through June 30, 2008. Information on the program is available on our Web site, http://www.upjohninstitute.org. I encourage you to apply.

Best wishes,

Richard W. Wynva
Manager of Publications and Marketing
Job Training Partnership (JTPA) 1982
- On-the-job training, classroom
- Fiscal 1982
- Skills training, classroom
- Free or reduced
- Work experience in public agencies
- Low income, public assistance recipients, disabled workers, and dislocated youth.

Workers' Rights
- On-the-job training, customized
- Dislocated, soft skills training
- Work experience in public agencies

Access to core services like
- Job search skills and job referral
- Access to services like
- JTPA, but FWS becomes fewer
- (MFD) workforce investment boards
- With some minority membership
- Monitoring is reduced relative to FSPA practice.


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Sincerely,

Anna Whitford

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W.E. Upjohn Institute for Employment Research

By: [Signature] (Signature)
Title: Manager of Publications
Date: 7-17-08

209
Anita Whiteford  
PO Box 222  
Pocasset, MA 02559

September 3, 2008

Dr. Jack L. Phillips  
Chairman  
ROI Institute, Inc.  
PO Box 38063  
Birmingham, AL 35238

Dear Dr. Phillips:


The excerpts to be reproduced are:

Table 3

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Sincerely,

[Signature]

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

Jack J. Phillips, PhD

By: [Signature]

Title: [Title]

Date: 9/9/08
Anita Pane Whiteford was born in Scranton, Pennsylvania on February 18, 1974. Anita received her primary and secondary education in the North Pocono School District and graduated with her high school diploma in June 1992. She continued on with her education and graduated from Wilkes University with a Bachelor of Arts degree in Psychology with a minor in Sociology in May 1996. Anita earned two graduate degrees at the Masters level- Master’s of Science degree in Human Resources Administration from the University of Scranton in May 2001 and Master of Social Work degree from Marywood University in May 2002. She holds a Professional in Human Resources certification from The Society of Human Resource Management (SHRM) since December 2005. In January 2009, Anita was awarded certification through the ROI Institute as a Certified ROI Practitioner.

After earning her Bachelors of Arts degree, Ms. Whiteford began a career as a social worker. Anita worked in various social service agencies as a therapist providing psychological services to adults and children specializing in substance abuse, mental health, marriage counseling, and family interventions. In 1999, Ms. Whiteford integrated her behavioral training as a social worker to pursue a career in human resources. She entered the human resources profession as a human resources generalist working for a workers compensation insurance company, being promoted to human resource management for a hotel and resort and then manufacturing. For the last four years, Ms. Whiteford has been employed at Mallinckrodt Baker/Covidien in Phillipsburg, NJ as a Training Specialist managing the training and development function for a unionized chemical manufacturing workforce of 300 employees.

In regards to teaching, Ms. Whiteford is an adjunct faculty member at The University of Scranton where she has developed and taught a graduate course in evaluation and measurement in the Department of Health and Human Resources. Also, she has developed and taught courses for Marywood University’s Continuing Education Department. Anita has successfully published a book chapter and articles in practitioner-based publications in the area of evaluation and measurement.

Anita holds professional membership in ASTD formerly called the American Society for Training and Development, the Society for Human Resource Management, Academy for Human Resource Development (AHRD), and the National Association of Workforce Development Professionals (NAWDP). She serves on the board of the Eastern PA Chapter of ASTD as the Vice President of Professional Development and formerly held the position of Vice President of Programs and Events. Anita is married to Bruce E. Whiteford and they both reside in Long Pond, Pennsylvania in the Pocono Mountains.