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Creating marketing programs that inform, engage and connect.

Identifying Gaps in Worker Retraining Programs

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Abstract

With the layoffs of thousands of workers due to the economic downturn, the return of thousands of veterans to civilian positions and under-represented population groups in need of training placement, there's a growing demand for transitional training programs in our technical and community colleges across the country and here in Washington State.

The Federal Workforce Employment and Training Act of 1993 [1] created Worker Retraining programs that have served over 100,000 unemployed and dislocated workers in Washington. This law has resulted in the expansion of training programs available for jobless workers who need to upgrade their skills to re-enter the workforce. However, our research shows that IT training programs often are not meeting the expectations of IT hiring managers.

This paper examines how well the worker retraining programs in our community and technical colleges address the needs of IT hiring managers and employers. It maps skills training to vacancies in high-demand occupation areas, examines where gaps exist, and then recommends steps to ensure training aligns with industry needs.

At Bookey Consulting [2], our team has been working in the professional development and technology space for over 15 years. We have helped create some of the most highly recognized certification programs for Microsoft Learning, Cisco, Citrix, and CompTIA. We have created curriculum, trained the instructors who deliver content, and worked with the examination companies who provide testing services. This current research combines our field experiences with extensive research in our local area.

Introduction

The number of jobs for both unskilled individuals and those facing transitions due to skill obsolescence has declined steadily over the past several decades. In the next ten years, there will be a huge growth in skilled jobs – those requiring some level of formal training and/or experience. In addition, a shift has occurred from large to small companies, where employees are often expected to do a variety of tasks requiring a range of skills.

According to Employment Outlook 2000-2010 [3], published by the U.S. Department of Labor's Bureau of Labor Statistics, the 12 fastest-growing occupations in the country are technology based and/or tied to the healthcare industry and require some degree of technical skills. Specifically, these occupations include computer software engineers and support specialists, network and database administrators, physician's assistants, home health aides, nurses, and occupational and physical therapists. By contrast, the fastest declining occupations include secretaries and typists, telephone operators, tellers and clerks, computer operators, and farmers/ranchers.

Not only technology or healthcare related jobs require higher levels of technical skills. All professionals now need technology skills to effectively communicate across diverse and global markets. Advances in automation, mobility and social networking, information processing, remote healthcare monitoring, and digital lifestyles have shaped the way people live and work and greatly influenced the level of expertise we need.

In uncertain or shifting economic times, relevant knowledge and skills are critical to career transition, job placement, and long-term career success.

The focus of this paper is to:

1. Identify the skills that enable both entry-level and transitioning workers to be successful in the workforce.
2. Establish a prescriptive path between an individual's current level of expertise and that required by most employers in today's competitive 21st century market.

We examine how to effectively enable both entry-level and transitioning workers by providing them with timely and relevant skills.

Who Are We?

The core Bookey Consulting team has extensive experience in technology and education and has worked on a wide range of industry-shaping projects that have impacted the way the way we live and work, both locally in the Puget Sound and globally.

Our experience drives our passion for educational excellence. Our primary focus is on how well IT training programs are meeting the needs of hiring managers, and therefore the needs of students in retraining programs. Research showed us that the demand for skilled IT workers exists for most open positions in the workplace and that matching qualified candidates to these positions is still one of our biggest challenges.

With the right IT skills, workers transition from one career path to another more easily, even though the path itself may be a major strategic shift, such as from construction to health services.

Bookey Consulting proposes greater emphasis on mid-range IT skills as a requirement for worker retraining programs. We also support building stronger partnerships between existing programs and industry to ensure training programs target the needs of hiring managers while also preparing workers for the competitive environment in today's workplace.

At Bookey Consulting, we evaluate existing programs and propose solutions for the greatest impact.

Our core team includes:

Linda Bookey, CEO Bookey Consulting
Over the past 16 years, Linda has worked with a variety of technology companies on their educational technology programs. As a team, we have built long-term relationships with a wide array of technologists, educators, marketers, and industry leaders. We support communities of involved "techies" and communicators to provide insight and development on products, curriculum design, market insights, or to serve as high-profile event speakers. Linda and her team have also worked with non-profits, donating time to community development in rural areas and global educational advancement.

James Dilanni, Program Manager, M. Adult Education, MS Information Systems
Jim DiIanni has extensive experience in the information technology industry working across multiple vertical market segments. During his career he has been involved in numerous innovative and exciting global programs and projects. He has worked in public and private sector organizations, both for-profit and non-profit, to support the advancement of technology and education. Jim's enthusiasm for technology and education has enabled him to successfully establish and manage global training and certification programs that provide individuals with avenues for entry into technical professions and enable them to continue to enhance their careers.

Jim has worked with culturally diverse audiences – giving presentations, conducting training, and managing program development projects in six continents. He continues to be engaged in global education, training, and technical certification in both corporate and academic market segments.

Janet Wilson, Program Manager, EdD, Education and Information Processing
Janet Wilson taught in the Greater Seattle area community college and university system for 15 years. She is also an experienced corporate trainer. Janet authored 17 computer application textbooks for the classroom and has more than a decade of experience as a technical writer, instructional designer, and lead program manager.

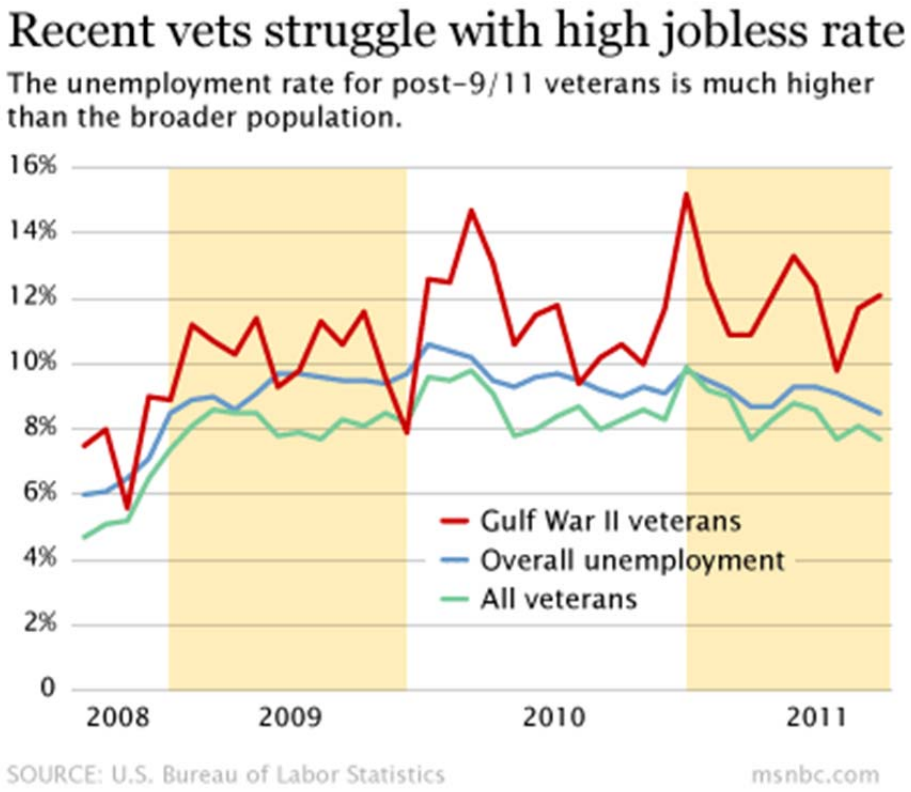
Janet is a strong leader and has extensive experience managing domestic and global content publishing teams – overseeing the development and delivery of technical content across a wide variety of platforms. She enjoys driving large collaborative and complex initiatives that bring people together to meet common business goals.

Problem Statement

State of the Industry – Nationally

The New York Times [4] recently published an article about the need to overhaul worker retraining programs. While many of the over 15 million unemployed in the country have enrolled in adult retraining programs, they often graduate deeply in debt from extended unemployment, hold credentials that employers do not care about, or are seeking employment where it is difficult to connect with the right employers. A recent report from the Bureau of Labor Statistics [5] shows that returning veterans are experiencing more difficulty returning to work than the broader population. Figure 1 shows a jump in 2010 and 2011 of unemployment for returning Gulf War Veterans.

Figure 1 – Returning Veteran Unemployment Rate



Studies also show that workers, both veteran and non-veteran, often completed community and technical college retraining programs only to find that they ***needed more or different skills from those they received in current training programs and that they were not adequately prepared for the positions they sought***. There is a gap in connecting people with potential employers, even with well-intended job placement programs available to assist them.

As a result, the Obama administration launched the Skills for America's Future initiative in October 2010. [6] Its focus is to broaden and duplicate the most successful programs around the United States and replicate what they are doing across other institutions. The

primary emphasis is placed on connecting community and technical colleges with employers to design targeted curricula, specific to high-demand job vacancies.

State of the Industry – Washington State

Washington State's Worker Retraining Program [7] is a critical component of the community and technical college curricula in the state. In the fall of 2009, worker retraining program enrollments increased 70 percent over the previous fall, accounting for nearly half of the total enrollment growth in state-supported enrollments.

In 2010 colleges will have trained more than 116,000 workers who lost their jobs as a result of economic downturns and/or industry restructuring. In 2008-2009 worker retraining employment rates, job retention, and wage recovery were all strong; however, the trend is changing in the current recession. Statistics show that the ***return to work is now more difficult following training***, which supports the ***need for more targeted curricula directly tied to employer needs*** and a stronger tie between employers and colleges throughout the training lifecycle (discussed later in further detail).

Key Findings from the Washington State March 2010 Accountability Report [8] show that:

- 5,226 dislocated workers left community and technical colleges in 2007-08 following training. Seventy-seven (77) percent of those returned to work in 2008-09, down slightly from the previous year and declining slightly in 2010.
- The majority of workers who re-enter the workforce were still employed one year later.
- On a net basis, students from worker retraining programs, who returned to work in 2008-09 following training, shifted out construction industry jobs due to the current recession. There is also a decline in retail trade, finance, and insurance occupations.
- Workforce retraining students overwhelmingly moved into the higher wage health care and IT industries during this time.

The Trend

In 2008-09, placement rates fell slightly as the economy was worsening and jobs were becoming harder to find, but placement rates are still above the target level.

Nearly half of worker retraining students in fall 2009 were enrolled in business management and accounting, information technology, and nursing. In January 2010, Washington State's unemployment rate reached more than 10 percent and decreased only slightly to around 9.2 percent in late 2011 [5]. Colleges expect unprecedented and historic worker retraining enrollment – an estimated 13,000 FTEs were enrolled in 2009-10 in worker retraining programs. Enrollment is increasing, and the trend is toward students enrolling in the high-demand fields of IT technology and healthcare.

State general fund provides the revenue for the worker retraining program. With the trend toward lower placement rates and a demand for skills more closely aligned to employer needs, colleges must:

1. Focus their worker retraining programs on high employer demand professional-technical education and training.

2. Demonstrate how their programs align with the training needs for industries and occupational clusters identified in the regions they serve.
3. Successfully map curriculum to match industry needs.

Correlation Among Fields of Study and Job Openings

Table 2 and the following graph, Figure 2, show the 16 occupational clusters, with the health-related field further broken into nursing, health tech (including higher wage fields of medical technicians) and health services (including massage therapy, speech therapy, etc.), to reflect the importance of health fields in Washington state.

A total of 11,674 students were enrolled in worker retraining programs during 2009 - 2010. The following table shows the correlation between the areas of study of Workforce Retraining students and the expected employment openings for Washington State through 2011.

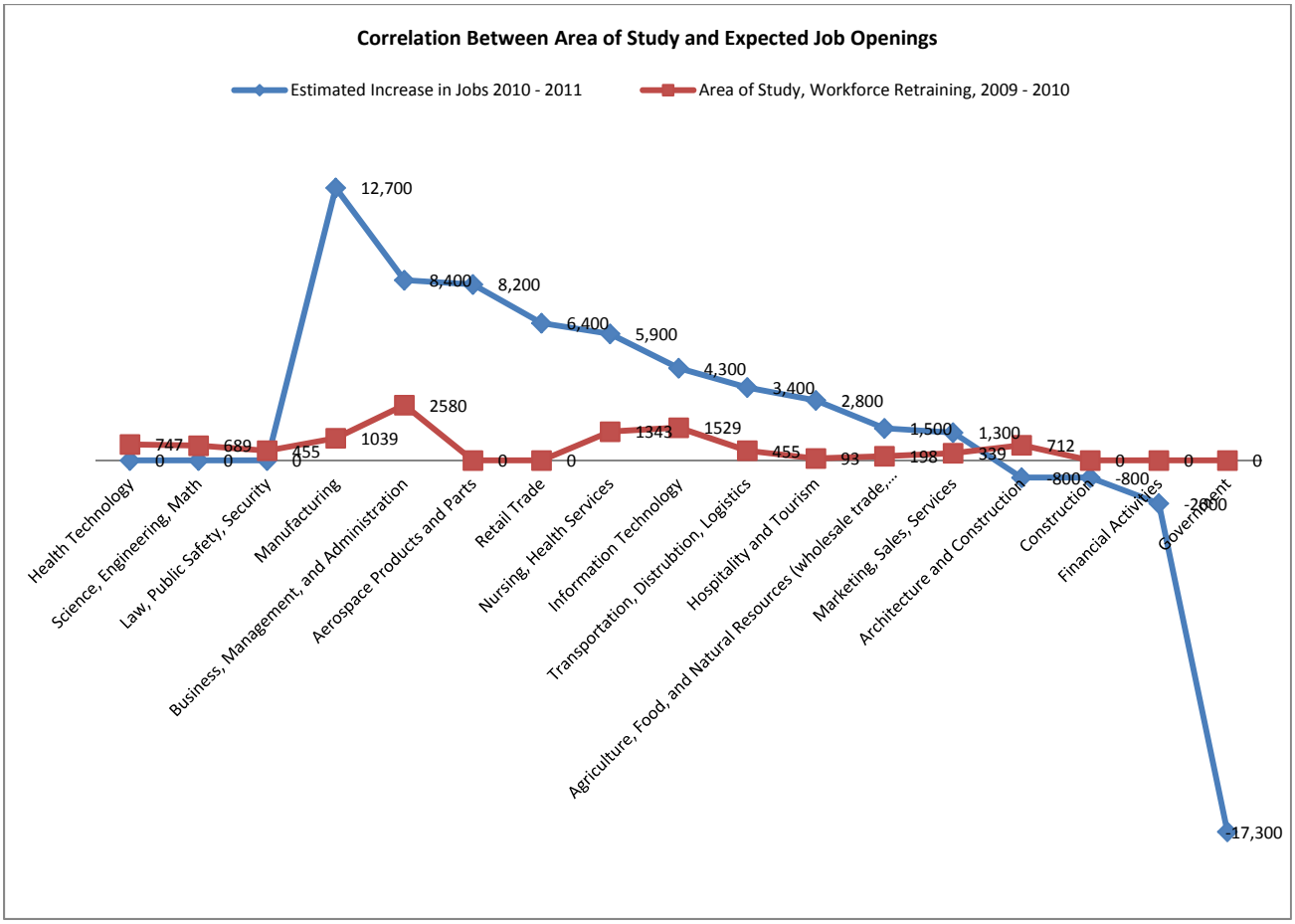
Table 2 – Occupation Demand and Area of Study

Occupation	Estimated Increase in Jobs 2010 - 2011	Area of Study, Workforce Retraining, 2009 - 2010
Health Technology	0*	747
Science, Engineering, Math	0	689
Law, Public Safety, Security	0	455
Manufacturing	12,700	1,039
Business, Management, and Administration	8,400	2,580
Aerospace Products and Parts	8,200	0
Retail Trade	6,400	0
Nursing, Health Services	5,900	1,343
Information Technology	4,300	1,529
Transportation, Distribution, Logistics	3,400	455
Hospitality and Tourism	2,800	93
Agriculture, Food, and Natural Resources (wholesale trade, mining, logging)	1,500	198
Marketing, Sales, Services	1,300	339
Architecture and Construction	-800	712
Construction	-800	0
Financial Activities	-2000	0
Government	-17,300	0

Source: State Board for Community and Technical Colleges. The career fields are based on 16 career clusters developed by The States' Career Clusters Initiative (SCCI). [8]

*Data not available at the time of this report.

Figure 2 – Occupation Demand and Area of Study Comparison



Findings

Washington State added an estimated 27,300 jobs during 2011:

- Nearly three-quarters of worker retraining students enrolled from fall quarter 2009 were studying in high-demand fields.
- More than one quarter were studying in health-related fields, primarily nursing.
- More than 20 percent were studying business management and administration, with most of the focus on accounting.
- Thirteen (13) percent were studying information technology.
- Private-sector employment grew by 2 percent, adding an estimated 44,600 jobs.
- Manufacturing and professional and business services led all sectors in annual job growth, adding an estimated 12,700 jobs.
- The computer systems and design and related industry added an estimated 4,300 jobs over the year, accounting for much of the growth in the professional and business services sector.
- Retail trade remained strong over the year, adding an estimated 6,400 jobs.
- Over half of the annual losses in the public sector were in state government (down an estimated 9,400 jobs).
- Federal government was down an estimated 1,200 jobs, and local government was down an estimated 6,700 jobs.

- The financial activities sector was the only private sector to lose a significant number of jobs over the year, down an estimated 2,000 jobs. The real estate, rental, and leasing industries accounted for most of the sector's losses (down an estimated 1,800 jobs).

Fastest Growing Occupations Nationally – Projected through 2018

Healthcare and technology are projected to continue to play a prominent role in the job market through 2018. According to U.S. Department of Labor statistics, biomedical engineers rank highest with a 72 percent growth projection. Other health related professions are also high on the list including home health aides, personal care aides, medical scientists, physicians' assistants, and dental hygienists ranking in the top 15 and between 53 and 36 percent increases.

IT and computer software engineering and applications are expected to continue their strong growth as well, with a 34 percent projected growth by 2018.

Non-IT Occupations Requiring Technical Skills

Labor Department reports for 2010 show the ongoing and increasing relevance for employees to have technical skills for traditionally non-technical positions. Among the non-technical occupations requiring the highest degree of technical skills were:

- Career and technical education teachers, at the secondary level
- All vocational education teachers
- Occupational and health and safety personnel
- Compensation/HR specialists
- Nurses, and other healthcare professionals

Professions such as maintenance and repair workers, property managers, and psychologists/counselors were also ranked as those needing some level of IT skills. In other words, the trend is moving toward some level of technical skills required for nearly all occupations and an intermediate level needed for many.

The skills required for these non-technical, in-demand positions include:

- Computerized electronic equipment.
- Computer hardware and software.
- Computer applications and software, such as MS Outlook, and MS Office.
- A basic understanding of computer programming with some positions possibly requiring programming skills. [9]

New and Emerging Occupations

In addition to a need for IT skills in non-technical positions, they will also be required for many new and emerging occupations.

As expected, computer occupations will continue to be strong; and IT skills will also be relevant for teachers at all levels; the emerging areas of health professions, such as bioengineering and preventative medicine; as well as for what were once non-technical positions, such as maintenance and repair workers who will need skills for operating

diagnostic system; real estate and property managers who will need them for maintaining records, researching the real estate market, and so on.

Skills required for these typically non-technical emerging occupations include some or all of the following:

- Database management
- Network security
- Object or component oriented development software
- Operating system
- Programming
- Security
- Web development
- Desktop computers
- Analytical software
- Document management software
- Electronic Mail (MS Outlook)
- Enterprise Resource Planning Software (Oracle PeopleSoft)
- Spreadsheet software (MS Excel)

Strategic Opportunities

Washington State's *Strategic Plan for Workforce Development* [10] outlines the strategic opportunities for worker retraining with the goal of retraining for the best skills and best wages. Among the goals to increase the skilled workers needed by Washington business are:

- Boosting the apprenticeship and internship program capacity of community and technical colleges.
- Removing barriers to employment, education, and training so ***workers have a clear and achievable opportunity path***.

Even in periods of economic decline, employers report difficulty recruiting skilled workers, particularly those with mid-level education and training. In 2008, Washington State met 77 percent of the demand for skilled workers. While this may be strong, the trend is toward a decline in number of placements and an increase in unfilled positions. ***Nearly one out of four skilled jobs in Washington is either going unfilled or is filled by a less qualified worker*.** Employers report that a lack of skilled workers directly impacts their opportunities to expand, their profitability, and influences whether or not they decide to stay in the state.

Worker retraining programs have an opportunity to address gaps and needs in existing training programs. Successful programs regularly include reviewing current curriculum offerings and certifications, building partnerships with employers, researching employer needs, and matching skills to needs for long-term success.

Worker Retraining Technical Skills Gaps

Numerous programs exist that enable individuals to acquire technology skills. These programs span the spectrum from individual courses at community and technical colleges to widely available digital literacy programs and into customized corporate training and certification programs. Skills acquired through these programs vary considerably and may have gaps between them as there is no clear scope and sequence. Additionally, not all knowledge and skills are equally applicable across professions and employment opportunities. While many professions do not require advanced level technical certifications, nearly all professions require some degree of technical and soft skill competencies.

Nearly every major Information Technology vendor has a supporting certification program that enables individuals to acquire and validate their skills for relevant professions. Microsoft has an extensive training and certification program, which we use in many examples within this white paper. We do not intend to discount the importance, relevance, quality, and applicability of other such programs. The issue of skill gaps exists equally across all programs.

Table 3 shows a comparison of Worker Retraining IT curriculums across 13 Washington State community and technical colleges, compared against the skills required for Microsoft certifications. As shown, there are large gaps in training across many of the institutions. There is a need for more intermediate IT skills; personal skills, such as presentation, interviewing, resume preparation; as well as other IT skills including more animation and graphics, video production, multimedia and graphic design, and social media. Most schools align to the MS certifications in basic skills areas, advanced IT professional skills, developer skills, networking, and programming.

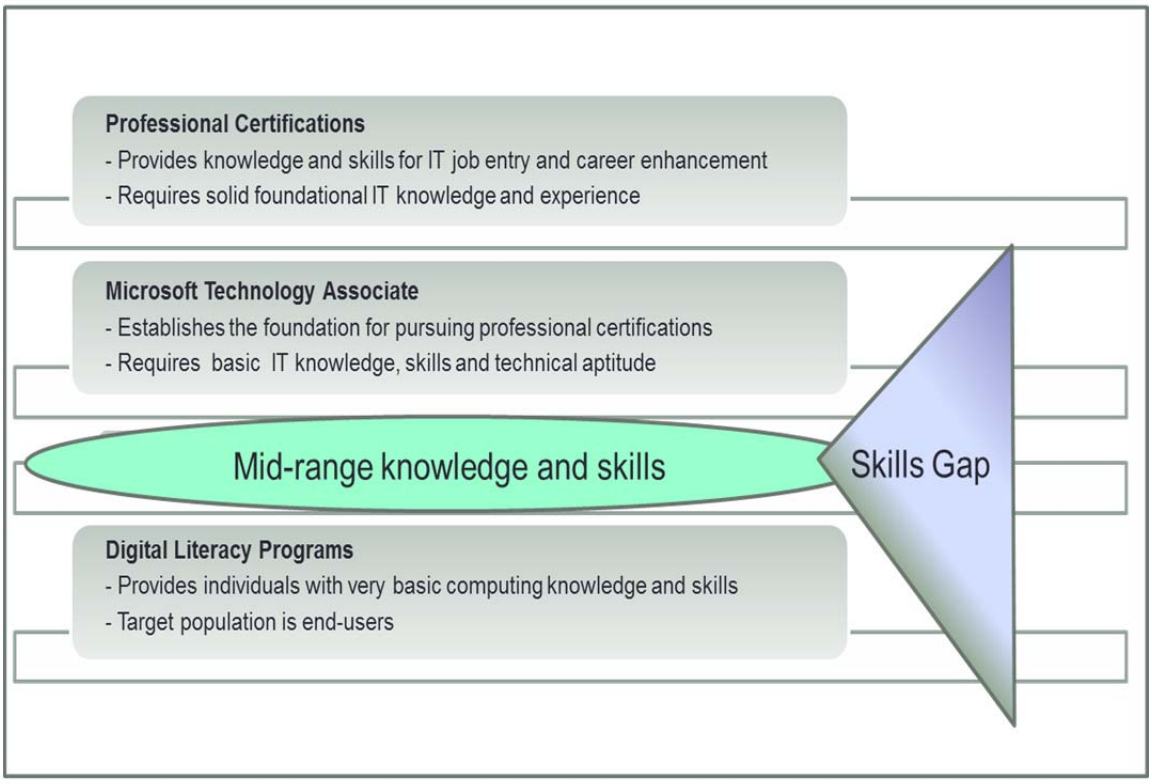
Table 3 – Sampling of Skills Training in Washington State Community and Technical Colleges [2]

		Microsoft Certifications	13 NW Community Colleges												
SKILLS	Career Skills	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	Basic	√	√	√	√	√	√	√	√	√	√	√	√		
	Intermediate	√					√	√			√	√	√	√	√
	Advanced	√					√						√	√	√
	Personal Skills													√	
	Other						√	√			√				
	Web and User Interface Design			√	√		√	√		√	√	√	√	√	√
	Animation and Graphics		√		√					√		√			√
	Video Production	√	√	√	√										
	Gaming		√	√	√					√					√
	Print Design			√	√	√								√	
	Mutimedia and Graphic Design	√		√		√								√	√
	Digital Media	√		√		√	√				√			√	√
	Social Media					√					√				√
	Programming	√	√		√		√	√	√	√		√	√	√	√
	Database	√	√		√		√	√		√		√	√	√	√
	Certifications (Other)	√	√		√			√							
	IT Pros	√	√		√		√	√					√	√	√
	Security	√		√	√			√				√		√	√
	Technician and Support	√		√	√			√		√				√	
	Networking	√		√	√	√	√	√		√		√		√	√
	Development	√	√	√	√		√	√		√			√	√	√
				No Data											
				Need											

Certification Skills Gap

Figure 3 depicts the gap between digital literacy programs intended to provide individuals with introductory level skills and, for example, the Microsoft Technology Associate (MTA) certification. It also shows the higher end professional and specialized IT certifications offered by IT vendors.

Figure 3 – Core IT and Professional Level Skills Gap [2]



While not all professions require a progression from mid-range IT skills and knowledge, advanced skills are relevant to individuals seeking IT careers. For a broad range of higher level positions, entry level digital literacy coursework is not sufficient for prospective workers to achieve an acceptable level of IT competency and knowledge. **We are missing the *middle-ground* between digital literacy and entry into professional certifications. For example, even at an entry level, the Microsoft Technical Associate program is too advanced for individuals with basic IT skills and not always applicable across professions.**

Given the size of both the potential and existing workforce and the diversity of individuals that employers seek, it is this *middle ground* that serves a large percentage of the population looking to acquire IT skills and knowledge. Consequently, addressing this gap is where the greatest opportunities exist for worker training and retraining programs to serve individuals seeking IT skills and competencies.

The Basic Solution

Building short- and long-term program goals and improving the overall quality of your worker retraining program is essential to success. Washington State's unemployment record closely aligns to that of the country with approximately 9 percent unemployment in 2011. As shown in this report, we have more open positions for high-demand jobs, such as the IT industry and health-related occupations than we can fill with qualified people.

To overcome the challenge of training a qualified workforce and ensuring that Washington State industries have the talent they need to be successful in a competitive global market, educators need to have a deep understanding of the needs of business in both the private and public sectors. It is essential to build strong partnerships across industries with the highest demand for a skilled workforce.

Students entering worker retraining programs expect to gain new skills that will ensure a meaningful and effective career transition – one that is fulfilling and long term. Training must align with the skills for which hiring managers are looking.

Bookey Consulting Services

The Bookey Consulting team has decades of combined experience in identifying both current and future client needs.

We build strong partnerships with Worker Retraining programs by:

- Performing in-depth analysis of existing programs to ensure they are delivering what is needed in the marketplace.
- Making connections with corporations to ensure alignment between your program and their needs.
- Providing expertise and insight into potential program gaps and providing a strategy to bridge those gaps.
- Providing guidelines for instructor training and train-the-trainer programs so that instructors can ensure that the student experience matches what is needed in the public sector and can share their expertise with peers.
- Providing in-person training as needed in all areas of envisioning, planning, designing, and assessing current program offerings.
- Providing guidance for advanced training – "Digital Literacy Plus."
- Assisting in building strong, long-lasting community and industry partnerships that result in internships or apprenticeships and ultimately increase opportunities for student placement.
- Building marketing campaigns to help extend program reach and impact.
- Assisting with targeted intermediate skills analysis and development, including career focus and other personal skills.

Summary

During tough economic times, businesses seek ways to differentiate themselves from their competitors. When enterprises are able to align their IT capabilities with what their business needs, they create a truly competitive advantage in a highly competitive global environment.

To maintain this competitive edge, businesses need a strong workforce. Worker retraining programs have an excellent opportunity to align themselves with businesses, provide workers who are skilled to meet hiring manager needs, and develop long-term partnerships beneficial to all parties, but mostly to improving the economic value of the workplace.

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Core Team Educational Background

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