

All 16 Wisconsin Technical College System (WTCS) colleges are committed to creating Intentional Networks Transforming Effective and Rigorous Facilitation of Assessment, Collaboration, and Education (INTERFACE). INTERFACE is a strategic alignment between colleges, nationally-recognized leaders in education, state-wide educational systems, workforce development systems, current TAACCCT grant recipients, and 39 businesses to strengthen computer skill competency and expand pathways in information technology-related programs to TAA-eligible, Veteran, and other adult learners.



## 1. **NEED AND PURPOSE:**

One of the most pressing needs for businesses in Wisconsin, as well as the nation, is for workers to have basic to advanced levels of information technology (IT) skills. The Department of Labor notes that “In today’s global economy, advancement in technology applications extend across multiple industries, creating the demand for transferable, basic IT skills and competencies among new hires and incumbent workers at almost all levels of employment.”<sup>1</sup> A 2009 *Journal of Information Technology Education* article similarly notes that

Most jobs require personnel to have some level of interaction and expertise with IT. These technologies are intricately woven into businesses, including healthcare industry’s use of electronic medical records, manufacturing industry’s use of automated production lines, banking industry’s use of online banking, and restaurant and food industries’ use of computerized ordering and tracking systems (p.142).<sup>2</sup>

<sup>1</sup> Department of Labor. Identifying and Addressing Workforce Challenges in the Information Technology Industry. Retrieved from [http://www.doleta.gov/BRG/pdf/High%20Growth%20Initiative%20IT%20Executive%20Summary\\_final.pdf](http://www.doleta.gov/BRG/pdf/High%20Growth%20Initiative%20IT%20Executive%20Summary_final.pdf)

<sup>2</sup> Grant, D., Malloy, A. Murphy, M. (2009). A comparison of student perceptions of their computer skills to their actual abilities. *Journal of Information Technology Education*. 8: 142-160.

INTERFACE will focus on two components of IT: 1) basic computer literacy skill development and 2) information technology-related career pathways that lead to family sustaining wages in high growth occupations.

**i. Serving the Education and Training Needs of TAA-Eligible Workers:**

**Table 1: Age of TAA-Eligible Workers in WI**

Ages	Percent of TAA-Eligible Workers
< 20	0.16%
20s	4.08%
30s	11.04%
40s	23.64%
50s	45.14%
60s	15.57%
70s	0.37%

Demonstration of Impact of Foreign Trade in

Wisconsin. Wisconsin was granted 130 Trade

Adjustment Act certified petitions in 2012-13, impacting

2,428 individuals in the workforce. Northcentral

Technical College’s service area was especially hit hard,

with 784 employees receiving certification. As Table 1 illustrates,<sup>3</sup> the age of participants being

served under petitions certified in 2012-13 ranges from under 20 years to over 70 years of age.

**Table 2: TAA Determinations in Wisconsin, 2012-13, Impacting 20 or More Workers**

Region	Companies Affected	Industry	Workers #s	Petitions #s	Cert. Date
Northern	Federal Mogul Corporation	Manufacturing	57	74857	1/6/2012
	Wausau Paper Brokaw Mills	Manufacturing	379	81200	2/28/2012
	Joerns Healthcare, LLC	Manufacturing	127	81547	1/22/2013
Northeastern	Thermo Fisher Hamilton	Technology	190	73621	1/10/2012
	Georgia Pacific Consumer Products LP	Manufacturing	47	81988	1/11/2013
	Kohler Company	Manufacturing	45	73574	1/13/2012
	Plexus Corporation	Manufacturing	79	82221	6/4/2013
	Albany International, Inc.	Manufacturing	43	81175	3/21/2012
	Brake Parts	Manufacturing	34	81099	1/25/2012
	Quad Graphics, Inc.	Manufacturing	114	73441	2/7/2012
	Dana Holding Corporation	Technology	51	81317	1/22/2013
	Maysteel LLC	Manufacturing	59	72483, 82007	11/12/2012, 11/20/2012
	Criticare Systems, Inc.	Manufacturing	21	81288	4/18/2012
	Thermo Fisher Scientific Milwaukee	Biotechnology	35	81422	5/2/2012
Western	Polaris Industries	Manufacturing	115	74336	1/3/2012
	Johnson Controls, Inc.	Technology	53	81067	4/20/2012
	Andersen Windows	Manufacturing	24	81198	5/11/2012
	Hutchinson Technology, Inc.	Manufacturing	42	82145	2/6/2013
	Sanmina-SCI, MSD Division	Manufacturing	33	81717	11/6/2012
Southeastern	Rock Tenn	Manufacturing	133	80492	2/9/2012
	Dana Holding Corporation	Technology	90	81317	1/15/2013
	Interstate Brands Corporation (IBC)	Manufacturing	67	82165	4/25/2013
	T-Shirt International, Inc.	Manufacturing	31	80196	5/1/2012

<sup>3</sup> Wisconsin Department of Workforce Development. (2013). TAA petition numbers with demo table via email.

	Envelope Product Group	Manufacturing	77	82052	11/26/2012
	Trostel, LTD	Manufacturing	52	82016	11/19/2012
Southern	Mayville Products	Manufacturing	84	81108	2/20/20121
	Maysteel LLC	Manufacturing	20	82007	11/12/2012
	Thermo Electron North America, LLC	Biotechnology	21	82205	2/6/2013
	<b>28 Certifications (Impacting 20 or more)</b>		<b>2123 Workers (Impacting 20 or more)</b>		

Strength of Partnerships with TAA Agencies. INTERFACE will build upon the foundation of existing alliances between consortium colleges and workforce agencies. The Wisconsin Department of Workforce Development (DWD) is a State agency charged with building and strengthening Wisconsin’s workforce. Its primary responsibility is to provide job services and employment assistance to people looking for work while working with employers to find the necessary workers needed to fill job openings. Wisconsin Governor Scott Walker has set a goal of 250,000 new jobs to be created in four years, and DWD plays a critical role in reaching this goal.<sup>4</sup>

The Wisconsin Job Center system delivers services through locations in 57 communities throughout the State. The Centers are part of the workforce system led by Wisconsin’s 11 independently operated, regional Workforce Development Boards (WDB); **Wisconsin technical colleges have representation on each WDB.** Job Center partners include Job Service, Vocational Rehabilitation, technical colleges, county human service agencies, and other community organizations. Due to strong partnerships and interwoven client services, **Lakeshore, Moraine Park, and Northcentral Technical Colleges have Job Centers located on at least one of their campuses** to support assessment, training, and job searching services; other colleges have Workforce Development Board-funded positions on campus.

To gather data and develop INTERFACE Project strategies, Wisconsin consortium representatives met twice in Madison with 15 State and local-level labor system leaders from the DWD, Northwest Wisconsin Workforce Investment Board, Wisconsin Economic Development Corporation, Wisconsin Workforce Development Association, RISE/Shifting Gears grant initiative,

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<sup>4</sup> WI DWD. (2011). *DWD Strategic Plan*. Retrieved from [http://dwd.wisconsin.gov/strategic\\_plan/pdf/strategic\\_plan.pdf](http://dwd.wisconsin.gov/strategic_plan/pdf/strategic_plan.pdf).

and WTCS. The intent of the sessions was to identify strengths and goals of a wide, systems-based collaboration. The sessions mapped out similarities in common goals and identified potential targets or focus of services based on group consensus, which are the basis for INTERFACE.

Understanding of TAA-Eligible Workers' Education and Training Needs. The Wisconsin consortium conducted a study of its spring 2012 students who were TAA-eligible. Data collected showed that 64 percent were between the ages of 40-59 and 9.9 percent were over the age of 60; only 26 percent were between the ages of 22 and 39.<sup>5</sup> Ninety-three percent of 728 survey respondents reported that it was “very/extremely important” in their decision to attend a technical college after dislocation to “obtain a degree, diploma or certificate,” and the majority were very concerned about their ability to succeed. Of the TAA students surveyed, 59 percent had “great/extreme concern” over their “ability to succeed in school” and 51 percent had “great/extreme concern” their “math/science skills were out-of-date.” Among those areas of greatest concern for respondents, four of the five responses rating highest among “extreme concern” and “great concern” were related to college expectations and school readiness.

TAA-eligible workers are competing for jobs in a technologically-dependent labor market demanding teamwork, computer, and communication skills not previously emphasized (see Table 2, p.2). Only one-quarter (26.2 percent) of the current Wisconsin TAA-eligible workers have any postsecondary education (Table 3, p.5). As President Barack Obama has stated, “employment in jobs requiring education beyond a high school diploma will grow more rapidly than employment in jobs that do not; of the 30 fastest growing occupations, more than half require postsecondary education.”<sup>6</sup>

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<sup>5</sup> “Partner College TAA Students.” Wisconsin technical college Institutional Research Directors. Survey responded to by 732 TAA-eligible individuals enrolled in Wisconsin technical colleges. Collected 4/9/12 to 5/1/12.

<sup>6</sup> White House. (2013). Higher Education. Retrieved from <http://www.whitehouse.gov/issues/education/higher-education>

Wisconsin technical college staff understand that TAA-eligible workers face non-academic challenges as well, particularly since many of these unemployed workers are at an age when they are juggling other life roles while attending school, including those of worker, spouse or partner, parent, caregiver, and community member (see Table 2, p.2). There is a need for wrap-

<b>Education Level Completed</b>	<b>Percent</b>
9 <sup>th</sup> Grade	0.70%
10 <sup>th</sup> Grade	1.32%
11 <sup>th</sup> Grade	3.38%
High School Diploma	58.24%
GED or Equivalent	7.17%
Certificate of Attendance/Completion	0.41%
<b>Postsecondary:</b>	
13 Years or Postsecondary Certificate	5.31%
14 Years	4.32%
Associate Diploma or Degree	5.02%
15 Years	1.40%
Other Postsecondary Degree/Certification	2.10%
Bachelor's Degree/Equivalent	6.71%
Beyond Bachelor Degree	0.49%
Master's Degree/Equivalent	1.52%
Doctorate Degree/Equivalent	0.12%

around advising and guidance through the myriad of decisions they need to make in order to move forward. **INTERFACE colleges will allocate 25 percent of their local grant funds toward partnerships with local workforce boards and Job Centers to decrease challenges and increase opportunities for dislocated workers.** For example, Nicolet Technical College will hire an Outreach Specialist to work with employers, local workforce development specialists, students, and college administration to identify needs and coordinate the development and provision of education and training programs for the target population. Other colleges are considering the creation of an on-campus dislocated worker support group mirroring Northeast Wisconsin Technical College's ACES—Adults on Course for Excellence and Success— Program, which supports displaced homemakers, individuals laid off without a re-call date, entrepreneurs that are victims of the economic downturn, and other adult learners through textbook closets, scholarships, and networking opportunities.

Wisconsin Veterans. In addition to actively reaching out to TAA-eligible workers, INTERFACE will recruit Veterans. As of September 2010, there were 418,461 U.S. Veterans residing in

<sup>7</sup> Wisconsin Department of Workforce Development. (2013). TAA petition numbers with demo table via email.

Wisconsin.<sup>8</sup> A national survey of Veterans conducted in 2010 showed that of those who reported using VA education or training benefits, 23.5 percent attended business, technical, or vocational school education; 86.4 percent used benefits after active duty; and 66.6 percent completed training or received the degree or certificate they enrolled in.<sup>9</sup> In 2012-13, the INTERFACE consortium colleges served over 5,700 students who are receiving Veterans' benefits.

<b>Ages</b>	<b>Percent of WI Veterans</b>
< 20	.02%
20s	3.6%
30s	7.5%
40s	13.3%
50s	16.4%
60s	27.4%
70+	31.7%

**ii. Evidence of Job Opportunities in the Targeted Industries and Occupations:**

Accurate and Timely Labor Market Information. As noted by the Department of Labor, “It is necessary to have both IT training and complementary training in a respective business sector such as healthcare, manufacturing, and financial services.”<sup>10</sup> Specific to the geographic scope of INTERFACE, the *BE BOLD 2: Growing Wisconsin’s Talent Pool* study<sup>11</sup> states that the Systems and Network Software Development skills cluster is “seen as a critical growth engine across industry sectors” and as such “demand for this cluster is accelerating on a global basis” (p. 26). In other words, this cluster will affect all six key industry sectors (agriculture, dairy & food processing; financial services, insurance & real estate; healthcare; manufacturing; transportation; water & water research) that the study identified as “essential drivers in securing the state’s economic future” feeling the impact of critical skill and talent shortages (p.12). INTERFACE will serve IT-related sectors based on projected openings/growth in individual consortium member districts (Table 5).

<sup>8</sup> National Center for Veterans Analysis and Statistics. (September 30, 2012). Retrieved from [http://www.va.gov/vetdata/Veteran\\_Population.asp](http://www.va.gov/vetdata/Veteran_Population.asp)

<sup>9</sup> National Survey of Veterans. (October 10, 2010). Retrieved from <http://www.va.gov/vetdata/docs/SurveysAndStudies/NVSSurveyFinalWeightedReport.pdf>

<sup>10</sup> U.S. DOL. (January 7, 2010). Information Technology: Statewide Solutions to Address Information Technology Industry Workforce Needs. Retrieved from <http://www.doleta.gov/BRG/Indprof/IT.cfm>.

<sup>11</sup> Competitive Wisconsin, Inc. (October 2012). “BE BOLD 2: Growing Wisconsin’s Talent Pool.” Retrieved from [http://www.wmep.org/sites/default/files/images/BeBold2\\_Study\\_October2012.pdf](http://www.wmep.org/sites/default/files/images/BeBold2_Study_October2012.pdf)

**Table 5: Target Occupation Areas for Each Consortium Member as Matched to Employment Trends in the State of Wisconsin<sup>12</sup>**

SOC Major Group	College(s)	Sample Occupational Title <sup>13</sup>	SOC Code	2010	2020	Change	Annual Openings <sup>14</sup>	NAICS
Management	Moraine Park; Western	General and Operations Manager	11-1021	28,666	29,165	+2%	580	55
	Moraine Park	Advertising and Promotions Managers	11-2011	749	820	+10%	30	
	Moraine Park	Administrative Services Managers	11-3011	4,324	4,838	+12%	160	
	Lakeshore	Medical and Health Service Managers	11-9111	5,677	6,642	+17%	240	
	Southwest	Managers, All Other	11-9199	13,530	14,600	+8%	410	
Business and Financial Operations	Moraine Park	Human Resources Specialists	13-1071	20,009	22,197	+11%	560	52 and 55
	Southwest	Logisticians	13-1081	1,700	2,180	+28%	80	
	Moraine Park	Accountants and Auditors	13-2011	19,426	22,252	+15%	700	
	Western	Financial Analyst	13-2051	3,008	3,733	+24%	140	
Computer and Mathematical	Lakeshore	Computer Systems Analysts	15-1121	10,852	13,460	+24%	460	51
	Blackhawk; Waukesha	Information Security Analyst	15-1122	6,575	7,920	+21%	230	
	Chippewa Valley; Fox Valley; Gateway; Mid-State; Moraine Park; Northcentral	Software Developer: Systems Software; Software Developer: Applications	15-1132	9,568	11,670	+22%	310	
			15-1133	2,563	3,312	+29%	100	
	Blackhawk; Fox Valley; Gateway; Moraine Park; Northcentral	Web Developer	15-1134	Grouped with 15-1122				
	Fox Valley; WI Indianhead	Network and Computer Systems Admin	15-1142	7,124	9,020	+27%	310	
Blackhawk; Fox Valley; Madison; Mid-State; Moraine Park; Nicolet; Northcentral; Northeast; Milwaukee	Computer User Support Specialist; Computer Network Support Specialist	15-1151/15-1152	13,304	15,492	+17%	570		
Architecture and Engineering	Mid-State	Electrical and Electronic Engineering Technicians	17-3023	2,474	2,563	+4%	60	32
	Nicolet	Electromechanical Technician	17-3024	400	400	+0%	10	
Arts, Design, Entertainment, Sports, Media	Moraine Park	Multimedia Artists and Animators	27-1014	1,077	1,204	+12%	40	51
	Moraine Park	Graphic Designer	27-1024	6,272	6,858	+9%	250	
Healthcare Practitioners and Technical	Lakeshore	Pharmacy Technician	29-2052	7,360	8,492	+15%	240	52
	Lakeshore	Medical Records and Health Information Technicians	29-2081	4,249	4,948	+17%	160	

<sup>12</sup> Career One Stop. (2013). Sponsored by the U.S. Department of Labor, Employment and Training Administration. Retrieved from <http://www.careerinfonet.org/>

<sup>13</sup> O\*net OnLine. (2013). Created for the U.S. Department of Labor, Employment & training Administration, by the National Center for O\*Net Development. Retrieved from <http://www.onetonline.org/>

<sup>14</sup> Average annual job openings due to growth and net replacement

**Table 6: Skills, Abilities, and Credentials<sup>15</sup> for Target Occupations<sup>16</sup>**

Sample Title	Technology (Software) Needed	Top Five Skills	Top Five Abilities	Some college	A.D.	B.D.
General and Operations Manager	Accounting; customer relationship management; data base; email; Internet	Active listening; reading comprehension; speaking; critical thinking; monitoring	Oral comprehension & expression; problem sensitivity; written comprehension & expression	24.1%	8.4%	33.9%
Advertising and Promotions Managers	Analytical or scientific; data base user interface and query; desktop publishing; graphics; project management	Active listening; social perceptiveness; speaking; time management; critical thinking;	Oral expression & comprehension; speech clarity; deductive reasoning; problem sensitivity	14.1%	5.5%	60.1%
Administrative Services Managers	Accounting; desktop publishing; email; enterprise resource planning; Internet	Speaking; active listening; coordination; reading comprehension; time management	Oral comprehension & expression; written comprehension & expression; problem sensitivity	28.3%	8.7%	34.5%
Medical and Health Service Managers	Analytical or scientific; calendar; categorization or classification; data base; medical	Reading comprehension; speaking; active listening; critical thinking; judgment and decision making	Oral comprehension & expression; problem sensitivity; written comprehension; written expression	16.3%	12.8%	30.4%
Managers, All Other <sup>17</sup>	Analytics or scientific; email; enterprise resource planning; inventory management; logistics and supply chain	Active listening, reading comprehension, speaking, complex problem solving, coordination	Oral comprehension & expression; written comprehension & expression; problem sensitivity	20%	7.9%	34.4%
Human Resources Specialists	Customer relations management; data base; email; human resources; Internet	Active listening; speaking; reading comprehension; critical thinking; writing	Oral comprehension & expression; written comprehension; deductive reasoning; speech recognition	23.3%	9.2%	37.9%
Logisticians	Accounting; charting; enterprise resource planning; inventory management; procurement	Critical thinking, active listening, complex problem solving, monitoring, reading comp.	Deductive & inductive reasoning; oral expression & comprehension; problem sensitivity	26.8%	12.5%	32.8%
Accountants and Auditors <sup>18</sup>	Accounting; compliance; enterprise resource planning ERP; financial analysis; tax preparation	Active listening; mathematics; reading comprehension; writing; critical thinking	Mathematical reasoning; oral comprehension; written comprehension; number facility; deductive reasoning	8.7%	10.3%	56.3%
Financial Analyst	Analytical or scientific; charting; financial analysis; information retrieval or search; spreadsheet	Critical thinking, reading comprehension, writing, speaking, active listening	Written communication; oral comprehension & expression; written expression; deductive reasoning	8.4%	3.1%	46.9%
Computer Systems Analysts <sup>19</sup>	Calendar and scheduling; charting; computer based training; data base; medical	Critical thinking; active listening; reading comprehension; systems analysis; systems evaluation	Deductive reasoning; fluency of ideas; inductive reasoning; information ordering; oral comp.	17.2%	10.6%	44.5%
Information	Authentication server; internet directory	Critical thinking; reading	Written comprehension; oral	22.2%	12.9%	43.2%

<sup>15</sup> Credential information includes the percent of employees aged 25 to 44 who have attained this level as their highest degree. A.D.=Associate Degree; B.D.=Bachelor's Degree

<sup>16</sup> Career OneStop

<sup>17</sup> Supply Chain Manager used as example

<sup>18</sup> Accountants sub-category used as example

<sup>19</sup> Informatics Nurse Specialists sub-category used as example



Security Analyst	services; network monitoring; network security; transaction security & virus protection	comprehension; complex problem solving; speaking; active listening	comprehension; problem sensitivity; deductive & inductive reasoning			
Software Developer: Systems Software	Data base management system; development environment; object; operating system; program testing	Critical thinking; active listening; programming; reading comprehension; complex problem	Oral comprehension; oral expression; written comprehension; near vision; problem sensitivity	9.3%	5.4%	49.9%
Software Developer: Applications	Data base management system; development environment; object; program testing; web platform development	Complex problem solving; programming; systems analysis; judgment and decision making; systems evaluation	Deductive reasoning; problem sensitivity; inductive reasoning; category flexibility; fluency of ideas	9.3%	5.4%	49.9%
Web Developer	Application server; development environment; graphics; object; web platform development	Programming; critical thinking; operations analysis; active listening; complex problem solving	Deductive reasoning; problem sensitivity; category flexibility; information ordering; near vision	22.2%	12.9%	43.2%
Network and Computer Systems Admin	Administration; configuration management; network monitoring; network security or virtual private network VPN management; transaction security and virus protection	Critical thinking; reading comprehension; systems analysis; complex problem solving; judgment and decision making;	Information ordering; deductive reasoning; inductive reasoning; near vision; oral comprehension	25.1%	15.4%	40.1%
Computer Support Specialists (all)	Backup or archival; configuration management; data base; desktop communications; internet directory services	Active listening; speaking; reading comprehension; critical thinking; writing	Oral comprehension & expression; written comprehension & expression; information ordering	29.4%	15.8%	33.5%
Electrical/ Electron Engineering Technicians	Analytical or scientific; computer aided design CAD; data base; development environment; industrial control	Critical thinking; complex problem solving; reading comp.; operation monitoring; active listening	Problem sensitivity; near vision; deductive reasoning; oral comprehension & expression	33.3%	22.9%	14.4%
Electromechanical Technician <sup>20</sup>	Analytical or scientific; computer aided design CAD; enterprise resource planning ERP; industrial control; operating system	Operation monitoring, quality control analysis, monitoring, critical thinking, and repairing	Arm-hand steadiness, near vision, finger dexterity, inductive reasoning, and manual dexterity	33.3%	22.9%	14.4%
Multimedia Artists and Animators	Computer aided design; development environment; graphics; video creation and editing; web platform development	Active listening; reading comprehension; critical thinking; time management; coordination	Near vision; oral expression; written comprehension; oral comprehension; visualization	19.6%	9.6%	42.4%
Graphic Designer	Data base; Desktop publishing; Graphics or photo imaging; Web page creation and editing; Web platform development	Active listening; operations analysis; speaking; writing; critical thinking	Originality; written comprehension; fluency of ideas; near vision; written expression	19.6%	13.9%	43.1%
Pharmacy Technician	Accounting; data base; enterprise resource planning ERP; inventory management; medical	Active listening; reading comprehension; speaking; critical thinking; service orientation	Near vision; oral comprehension; written comprehension; oral expression; problem sensitivity	34.6%	19%	14.1%
Medical Records and Health Information Tech	Accounting; data base; document management; medical; voice recognition	Active listening; reading comprehension; speaking; critical thinking; monitoring	Near vision; oral comprehension & expression; speech recognition; information ordering	33.6%	15.9%	11.2%

<sup>20</sup> Electromechanical Engineering Technologists sub-category used as example

Skills, Abilities, and Credentials Required in Targeted Industries. INTERFACE will focus on two components of IT: 1) basic computer literacy skill development and 2) information technology-related career pathways that lead to family sustaining wages in high growth occupations. Table 6 (p.8-9) illustrates skills, abilities, and credentials needed in targeted industries and occupations.

The INTERFACE Project will engage with employers in the community to obtain feedback on any content developed and delivered. As detailed further in Section 2.ii., each WTCS college has active program advisory committees, made up of employers and employees, to provide guidance for all State Board approved programs. Meeting on a bi-annual basis, employers contribute insight into industry needs, helping direct curriculum development; ensure the colleges are abreast of technological changes and relevant certifications; and open doors to opportunities for work-based learning. Forty employers from across the consortium member districts have expressed their commitment to INTERFACE. Furthermore, INTERFACE will benefit from input of employers involved in the Business Services/IT/Customer Service industry partnerships currently active in six of the eleven Wisconsin Workforce Development Areas.

**iii. Gap Analyses:** Nationwide, IT ranks as the third most difficult occupational category in which to fill jobs, according to ManpowerGroup's 2012 survey of US employers.<sup>21</sup> The *BE BOLD 2: Growing Wisconsin's Talent Pool* study further explains that, in Wisconsin, the employee shortage gap will only continue to grow in this field in the coming years:

Through 2021, Wisconsin's demand for these professionals will rise from 18,054 to 25,813—almost 43%. Yet the supply of these workers will drop by 18% from the current 17,277 to 14,138. More importantly, the difference between the supply and demand totals will widen from a crack of slightly more than 750 this year to a chasm of 11,675 in 2021—an alarming 15-fold increase in the gap size. (p.26)

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<sup>21</sup> Competitive Wisconsin, Inc. (October 2012). "BE BOLD 2: Growing Wisconsin's Talent Pool." Retrieved from [http://www.wmep.org/sites/default/files/images/BeBold2\\_Study\\_October2012.pdf](http://www.wmep.org/sites/default/files/images/BeBold2_Study_October2012.pdf)

According to WTCS, there is a mismatch between the skill level of those who are unemployed and the jobs for which there are openings. The ability of WTCS colleges to align workers with skills is limited because

The skills gap challenges Wisconsin's technical colleges with both pipeline and capacity issues. The pipeline is constrained because students who could otherwise meet employers' skill demands are often placed on wait lists in the very same technical college programs that produce graduates in high-demand sectors like manufacturing, construction, and health care. As of June 2012, nearly 12,000 prospective program students were on wait lists for programs like welding, CNC Machining, and Electromechanical Technology, among many others. Technical college leaders reported that two of the primary reasons for the wait lists were related to capacity constraints, either instructional or physical.<sup>22</sup>

Department of Labor funding is needed for INTERFACE because "as of June 2012, [Wisconsin] technical college leaders estimated that area employers would need at least an additional 39,000 skilled workers over the next two years, beyond what the colleges currently have the capacity to produce."<sup>23</sup> Most of these positions will require at least a basic understanding of IT.

To meet employer needs within the individual consortium member districts, INTERFACE has incorporated 27 programs through which TAA-eligible workers, Veterans, and other adults can earn postsecondary credentials to support careers in Information Technology. Seventeen of the programs are new offerings in their respective districts. The consortium's outreach process involved key pipeline organizations to identify challenges and solutions to the above skills gap. See Table 7 below and Workplan (p. 31-32) for INTERFACE strategies.

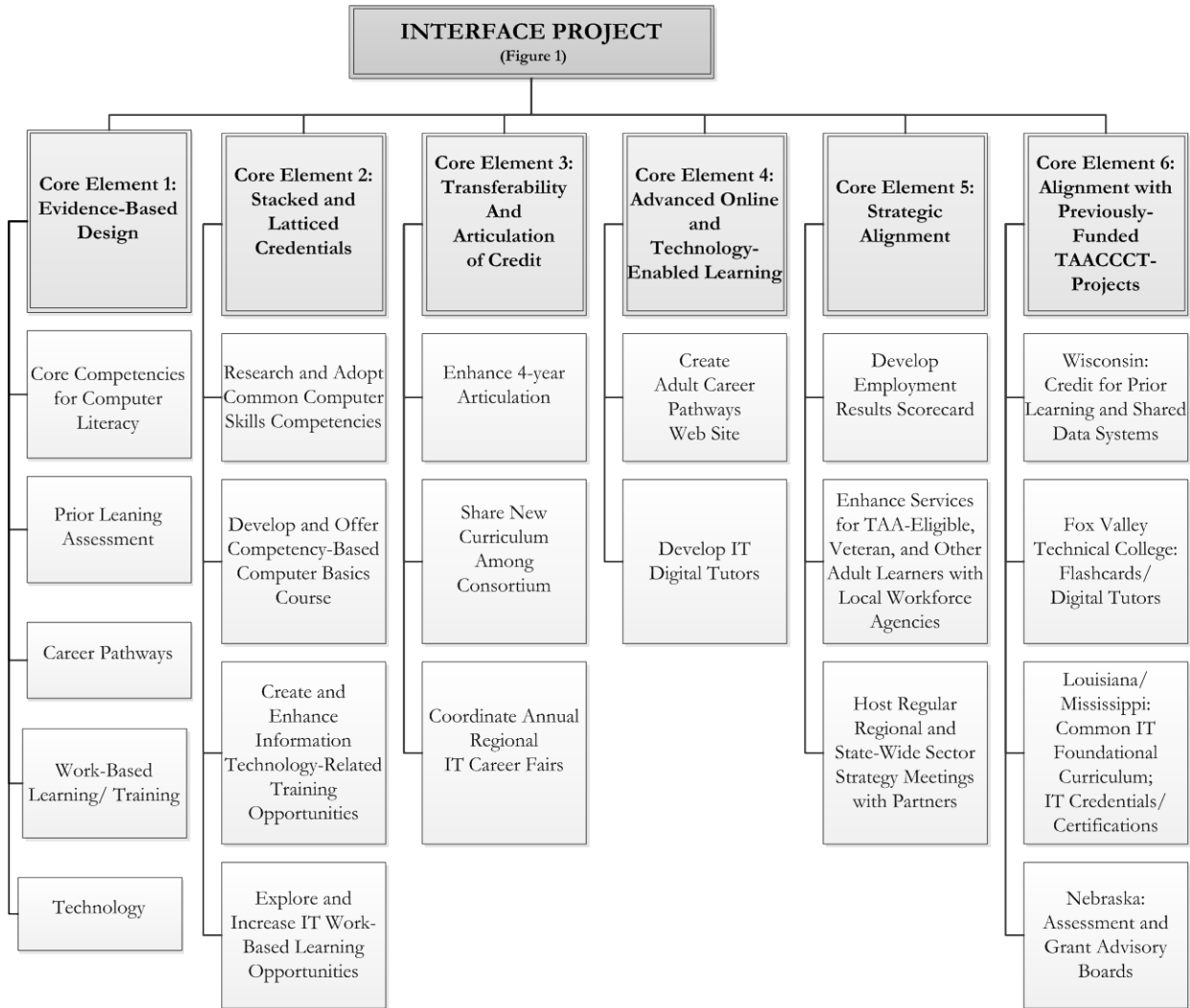
<b>Core Element</b>	<b>INTERFACE Strategy</b>
Core Element 5	1.1. Strategic Alignment
Core Elements 1, 2 & 6	1.2. Establish Statewide Systematic Framework for PLA in IT and Related Careers
Core Element 4 & 6	2.1. Online and Technology-Enabled Supplemental Learning
Core Elements 1, 2, & 3	2.2. Implement Industry-Driven Road Maps/Adult Career Pathways in IT and Related Careers
Core Elements 5	3.1. Statewide Dissemination of Program Graduate Employment Data

<sup>22</sup> WTCS. Wisconsin Skills Link 2013-15 Biennial Budget Initiative. Retrieved from [http://www.wtcsystem.edu/legislative/state/pdf/wisconsin\\_skills\\_link.pdf](http://www.wtcsystem.edu/legislative/state/pdf/wisconsin_skills_link.pdf)

<sup>23</sup> Ibid.

**2. APPROACH:**

The following illustration demonstrates how the INTERFACE Project will incorporate DOL’s six Core Elements and the following section explains in detail the strategies the Project will implement for each Element. (See Figure 1 below)



**i. Evidence-Based Design (Core Element 1):**

Evidence for Program Design. INTERFACE’s research review builds off of the research conducted by Wisconsin’s *Making the Future* Round 2 TAACCCT grant as well as substantial work that has been

conducted on Core Competencies for Computer Literacy, Prior Learning Assessment, Career Pathways, Work-Based Training, and Technology.

**Core Competencies for Computer Literacy**—A 2009 study in the *Journal of Information Technology Education* found that in our information and technology society “early development of computer literacy may be as critical as reading and writing literacy” (p.142).<sup>24</sup> This study “analyze[d] and compare[d] students’ overall perception of their computer skill proficiency (i.e., low, average, high) and actual task performance on three different levels (i.e., basic, moderate, advanced) utilizing three different computer business applications (i.e., word processing, presentation graphics, spreadsheets)” (p. 157). The authors stated that

The findings of this study indicate some differences in the student’s perception of their word processing skills and actual performance, no difference in perception and performance for presentation skills, and a significant difference in perception and performance in spreadsheet skills. As a result of this study, the curriculum for this introductory business computer applications course was modified to address the students’ performance deficiency in spreadsheet skills. (p.157)

Results suggest that some method of assessment is needed to determine the levels of computer skills that students have rather than relying on students’ self-reported evaluations of their skills. Statistical analysis was used to determine the confidence level of each hypothesis; however, this study is in the **preliminary research** category.

**Prior Learning Assessment**—Prior learning assessment (PLA) helps more workers complete training and degree programs sooner by giving them college credit for knowledge and competencies gained outside the classroom. PLA also saves students time and money, and the boost in credit-earning is also a motivating effect for some students. A multi-institutional study conducted by the Council for Adult & Experiential Learning (CAEL), *Fueling the Race to Postsecondary Success*, also found “The data from 62,475 students at the 48 postsecondary institutions in our study show that PLA

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<sup>24</sup> Grant, D., Malloy, A. Murphy, M. (2009). A comparison of student perceptions of their computer skills to their actual abilities. *Journal of Information Technology Education*. 8: 142-160.

students had better academic outcomes, particularly in terms of graduation rates and persistence, than other adult students. Many PLA students also shortened the time required to earn a degree, depending on the number of PLA credits earned” (p.7).<sup>25</sup> Despite the fact that this is the only study to analyze data from so many institutions, as the authors note, there are some limitations of the internal and external validity of the study, including the possibility that students who earned PLA credit were already more motivated or had greater access to resources and that a non-probability sampling procedure was used (p.71). Therefore, CAEL’s research on PLA has **moderate evidence**.

**Career Pathways**—In a 2008 research report, Community Research Partners described career pathways as “a systemic workforce development framework, developed by partnerships of employers and educational institutions” and observed that while “lead time is required to develop partnerships and design and implement pathways,” the benefit is that a career pathway “ensures that education and training programs prepare students for skilled jobs in demand by employers” (p.12).<sup>26</sup> Wisconsin is on the cutting edge of career pathway evaluation. A 2012 report from ISIS (Innovative Strategies for Increasing Self-Sufficiency) noted that

The career pathways model is relatively new, and its effectiveness—and the effectiveness of most of its components—have not been rigorously evaluated. Effectiveness research often is not the first priority in the early years of an innovation, and career pathways poses special challenges for evaluation design. The underlying model is complex and multifaceted. Thus far it has been articulated loosely for description and promotion but not specified as a tighter framework capable of guiding research (p. ii).<sup>27</sup>

However, “ISIS is currently conducting random assignment evaluations of up to nine career pathway programs around the nation,”<sup>28</sup> and Madison College and Milwaukee Area Technical

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<sup>25</sup> Council for Adult & Experiential Learning. (2010). *Fueling the Race to Postsecondary Success: A 48 Institution Study of Prior Learning Assessment and Adult Student Outcomes*. Retrieved from [http://www.cael.org/pdfs/PLA\\_Fueling-the-Race.pdf](http://www.cael.org/pdfs/PLA_Fueling-the-Race.pdf).

<sup>26</sup> Community Research Partners (February 2008). *Ohio Stackable Certificates: Models for Success*. Retrieved from [http://www.communityresearchpartners.org/uploads/publications/Ohio\\_Stackable\\_Certificates\\_Models\\_for\\_Success.pdf](http://www.communityresearchpartners.org/uploads/publications/Ohio_Stackable_Certificates_Models_for_Success.pdf)

<sup>27</sup> Fein, David J. (2012). *Career Pathways as a Framework for Program Design and Evaluation: A Working Paper from the Innovative Strategies for Increasing Self-Sufficiency (ISIS) Project*. OPRE Report # 2012-30, Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Retrieved from [http://www.projectisis.org/wp-content/uploads/2012/05/ISIS-Career-Pathways-Framework-OPRE-2012-30\\_5-16-12.pdf](http://www.projectisis.org/wp-content/uploads/2012/05/ISIS-Career-Pathways-Framework-OPRE-2012-30_5-16-12.pdf)

<sup>28</sup> Ibid.

College (two of INTERFACE's consortium partners) are partnering with ISIS to develop tests of career pathways programs.

In addition, in 2007, Wisconsin implemented the Regional Industry Skills Education (RISE) partnership, which is led by the Wisconsin Department of Workforce Development and the WTCS.<sup>29</sup> [RISE was funded by the Joyce Foundation's *Shifting Gears* program, an initiative designed to "address a growing gap between the skills demanded by employers and the skills possessed by workers in the area."<sup>30</sup> ] The Center on Wisconsin Strategy (COWS) noted that

The RISE Initiative focuses on **Career Pathways and Career Pathway Bridges** as a way to match one-step-at-a-time, upwardly-mobile educational pathways with actual career building opportunities employers offer. Career Pathway Bridges integrate basic skills and occupational skills instruction within a Career Pathway...The focus is on the design of relevant, reliable, and realistic college opportunities that respond to the specific needs of low-skill adults and the demands of the local labor market and industry needs. (p.4)<sup>31</sup>

The population sample of 152,285 students in a 2012 study (conducted collaboratively with COWS and WTCS with assistance from Shifting Gears "mirrored as closely as possible the RISE target population" (p.4). Study authors noted that "Probably the most surprising and significant result is that ABE (Adult Basic Education) students make it to degree and technical diploma completion at least as often as other students. Less surprising, perhaps, but significant nonetheless, is the apparent importance of program enrollment on students' accumulation of credits" (p.16). Evidence for Career Pathways is currently in the **preliminary stages** as studies have yielded promising results. However, "random sampling for the ISIS project began in November 2011 and will conclude in September 2014",<sup>32</sup> bringing the promise of a study with **strong evidence**.

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<sup>29</sup> RISE (2012). Retrieved from <http://www.risepartnership.org/>

<sup>30</sup> Joyce Foundation. (2013). Retrieved from <http://www.joycefdn.org/shifting-gears/>

<sup>31</sup> Chung, J., Cocina, M., and Dresser, L. (2012). Toward College Success for Working Adults: The Pipeline to Credentials in the Wisconsin Technical College System." Center on Wisconsin Strategy. Retrieved from <http://www.cows.org/towards-college-success-for-working-adults-the-pipeline-to-credentials-in-the-wisconsin-technical-college-system>

<sup>32</sup> Innovative Strategies for Increasing Self-Sufficiency (ISIS). "Project Overview." Retrieved from [http://www.projectisis.org/documents/ISIS\\_overview.pdf](http://www.projectisis.org/documents/ISIS_overview.pdf)

**Work-Based Learning**—Work-based learning activities “extend the classroom into the workplace, connecting acquired knowledge and skills to a student’s future employment.”<sup>33</sup> Work-based learning can include internships, job shadowing, and service learning. In a report from the Educational Policy Institute, authors found that “almost three-quarters of all postsecondary students believed they learn better through hands-on projects — the type of learning that occurs in work-based learning activities — than traditional, lecture-style practice” (p. 20).<sup>34</sup> *Learning for Jobs*, which studies vocational education and training in 17 countries, including the U.S., is quoted as saying that workplaces “provide a good place to learn both hard skills on modern equipment and soft skills in terms of working with people in a real-world context (p.19).<sup>35</sup> This study involved “country self-assessments, site visits by experts, and extensive quantitative data collection” (p.19).<sup>36</sup> In 2010, Samina Sattar conducted an “Evidence Scan of Work Experience Programs” that “reviewed 16 years of rigorous research for studies of the effectiveness” of “interventions that include work experience as a strategy to improve employment outcomes for populations with barriers to employment” (p.1).<sup>37</sup> Each study received an evidence rating from strong to moderate to preliminary: “of the 27 studies reviewed, 22 used randomized, controlled trials to estimate program impacts” (p.5).<sup>38</sup> Sattar noted that “Though the research described here was generally of a rigorous nature, many studies did not attempt to isolate the impact of the work experience component on participant outcomes” (p.11).<sup>39</sup> Thus, overall, work-based learning evidence ranges from **preliminary to strong**.

**Technology**—Research conducted in 2012 by the New Media Consortium and the EDUCAUSE

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<sup>33</sup> “Work-Based Learning.” (2013). State of Washington Office of Superintendent of Public Instruction. Retrieved from <http://www.k12.wa.us/CareerTechEd/workbasedlearning.aspx>

<sup>34</sup> Swail, W.S. and Kampits, E. (May 2004). “Work-based learning & higher education: A research perspective.” American Higher Education Report Series. The Educational Policy Institute. Retrieved from <http://www.educationalpolicy.org/pdf/wbl.pdf>

<sup>35</sup> Quoted in Pathways to Prosperity Project. (February 2011). “Pathways to prosperity: meeting the challenge of preparing young Americans for the 21<sup>st</sup> Century.” Harvard Graduate School of Education. Retrieved from [http://www.gse.harvard.edu/news\\_events/features/2011/Pathways\\_to\\_Prosperty\\_Feb2011.pdf](http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperty_Feb2011.pdf)

<sup>36</sup> Ibid.

<sup>37</sup> S. Sattar. (May 19, 2010). “Evidence scan of work experience programs.” Mathematica Policy Research. Retrieved from [http://www.mathematica-mpr.com/publications/pdfs/labor/work\\_exper\\_programs.pdf](http://www.mathematica-mpr.com/publications/pdfs/labor/work_exper_programs.pdf)

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.



Learning Initiative noted that “Mobile apps are the fastest growing dimension of the mobile space in higher education right now, with impacts on virtually every aspect of informal life, and increasingly, every discipline in the university” (p.6).<sup>40</sup> Another study at Abilene Christian University compared five sections of a chemistry lab class, including one group that had iPhones or iPod Touches “for which the instructor...prepared pre-recorded video lectures on lab instructions and safety protocols that students could access anytime, anywhere. The other four lab groups received the same information, but as an in-class lecture.”<sup>41</sup> Though results showed mixed results in terms of academic performance, the iPhone students demonstrated “clear evidence of being able to do more on their own, and intuit new things.”<sup>42</sup> Use of technology, shared online resources, and mobile apps to supplement learning and emulate factory simulations or real-world career experiences and atmospheres will have measurable impacts on retention of students and their future success in employment. These preliminary research studies suggest that new technologies being used outside the classroom might hold the key to improving student performance.

Description of Proposed Education and Training Strategies. The INTERFACE Project will build from the above evidence and build best practices into its education and training strategies.

**Table 8: Grant-Funded Pathway Developments/Enhancements by College**

College District	Career Pathways							
	Computer Literacy	Prior Learning Assess. (PLA)	Expand or Build Capacity	Modify and/or Develop Curricul.	Reformat Delivery, Modularize or Stack Courses	Embed Industry Standards and/or Certificates	Work-Based Training/ Internships	Tech./ Online
Blackhawk	X	X		X				
CVTC	X	X	X	X	X		X	
Fox Valley	X	X						X
Gateway	X	X	X	X	X			X
Lakeshore	X	X	X	X	X	X	X	X
Madison	X	X	X	X	X	X	X	
Mid-State	X	X		X	X	X		

<sup>40</sup> New Media Consortium. Horizon Report: 2012 Higher Education Edition. Retrieved from <http://sorden.com/ua/horizon2012.pdf>

<sup>41</sup> Cox, J. (March 23, 2010). “Can the iPhone Save Higher Education?” NetworkWorld. Retrieved from <http://www.networkworld.com/news/2010/032310-iphone-higher-education.html?page=1>

<sup>42</sup> Ibid.

Milwaukee	X	X		X		X		X
Moraine Park	X	X		X	X		X	X
Nicolet	X	X	X	X	X	X		X
Northcentral	X	X	X	X	X			X
Northeast	X	X	X					X
Southwest	X	X		X				
Waukesha	X	X		X	X			X
Western	X	X	X	X			X	
Wisconsin Indianhead	X	X		X		X		X

**Core Competencies for Computer Literacy**—INTERFACE will support the research and adoption of **core computer skill competencies** that are imperative to the success of individuals entering postsecondary education. This state-wide adoption will allow Job Centers across Wisconsin to assess and advise TAA-eligible, Veterans, and other adult learners with a consistent message (Core Elements 1, 2 and 6). The Project will also develop a standardized **competency-based computer basics course** to enrich computer literacy skills to meet the minimum competencies identified; each consortium member will determine how to best implement this course (e.g., campus learning centers, online, local Job Centers, flipped classes). (See Strategy 1.1, activity 2, p. 31). This will be a replication of successful computer basics courses, such as those mentioned above.

**Credit for Prior Learning**—The INTERFACE Project will enhance credit for prior learning and experience processes to allow participants increased opportunities to streamline learning. Consortium members will attend credit for prior learning professional development opportunities as provided through Wisconsin’s current TAACCCT grant, *Making the Future* (Core Element 6) and apply lessons learned to the information technology-related programming of the Project. All colleges will commit to implementing at least one to three PLA recommendations in their grant-funded program pathway. (See Strategy 1.2, activity 1, p.31). This will be a replication of the Council for Adult & Experiential Learning’s successful PLA strategies mentioned above.

**Career Pathways**—The INTERFACE Project will replicate successful career pathway designs (Core Elements 1, 2, & 3); however, just as adult learners all have unique and individualized needs,

career pathways must be individualized—or “local”—to be successful. In that regard, *Making the Future* is influenced by the Workforce Strategy Center’s work on career pathways. For example, in “The Career Pathways How-To Guide,” Davis Jenkins and Christopher Spence state:

Career pathways, however, cannot be purchased off the shelf. The specific form and content of a career pathway will depend on the particular industries targeted, the requirements of employment and advancement in the target sectors, and existing programs and resources for preparing workers for employment in those sectors. Building a career pathway is a process of adapting existing programs and services—and adding new ones—to enable individuals to advance to successively higher levels of education and employment in the target sectors...The process strengthens cooperation between these actors in ways that improve their individual and collective capacities to respond to the needs of local residents and employers (p.2).<sup>43</sup>

Colleges will 1) Develop, modify, contextualize, or chunk curriculum based on program and pathway using the Worldwide Instructional Design System (WIDS); 2) Develop natural exit/entry points to and from employment; 3) Organize curriculum, as possible, into stackable and/or latticeable industry recognized credentials that are portable and/or transferable; 4) Continue to work with UW schools, as well as other 4-year institutions to ensure curriculum transferability and program articulation; 5) Develop articulation agreements with Bellevue University in Nebraska; 6) Train participants; 7) Offer annual IT Career Expos; 9) Enhance and promote IT Career Pathways on the WTCS sponsored Adult Career Pathway site; and 10) Implement systems of continuous improvement to review and modify pathways as necessary.(See Strategy 2.2, activities 1-7;9-10, p.32).

**Work-Based Learning**—As part of the creation of career pathways, colleges will incorporate work-based learning or internship components for programs where they do not currently exist. (See Strategy 2.2, activity 8, p.32). For example, Gateway Technical College’s Biz Squad program is an opportunity for students to gain hands-on experience while providing no-cost customized business assistance to area businesses in Southeastern Wisconsin. Multidisciplinary student project teams overseen by instructors complete needs analysis and provide needed services for businesses in areas

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<sup>43</sup> Jenkins, D. and C. Spence. (October 2006). “The Career Pathways How-To Guide.” Retrieved from [http://www.sectorstrategies.org/system/files/WSC\\_Career\\_Pathways\\_howto.pdf](http://www.sectorstrategies.org/system/files/WSC_Career_Pathways_howto.pdf)

such as accounting, graphic communications, marketing and IT. Many of these services are targeted to clients of local entrepreneurial incubators.

**Technology**—Consortium member Fox Valley Technical College will work with consortium colleges to develop **mobile applications** that fit with each college's INTERFACE Project design. These digital tutors will raise learner confidence as these resources provide support outside the classroom. (Core Elements 4 & 6). (See Strategy 2.1, activity 1, p.31).

Strength and Description of Evidence. The determination of the strength of evidence for each research study was provided above.

ii. **Stacked and Latticed Credentials (Core Element 2):**

Substantive Plans to Engage Employers. WTCS requires each college to establish and maintain active **program advisory committees** for all State Board approved programs.<sup>44</sup> Membership must include equal representation of employers and employees, geographic locations, and racial and gender diversity.<sup>45</sup> Employers provide input into curriculum, careers, mentors, technologies, clinical sites, and skills gaps. Each INTERFACE Project credential falls under the advisement of advisory committees which traditionally meet twice each year. These employers will continue to provide guidance in identifying courses for new or existing credentials, equipment needed to enhance learning to meet industry demand, relevant certification exams vital to industry standards, opportunities for work-based learning, shifting trends that will impact programming, and graduate employment openings and requirements.

**Regional collaborations** are key to leveraging resources to improve the alignment between skills needed by private sector employers and the education and job training systems that provide the pipeline of workers. The INTERFACE Project will contract with Smooth Transitions, LLC, to

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<sup>44</sup> WTCS. (2013). Policy Manual: Policy 309. Retrieved from [http://www.wtcsystem.edu/board/pdf/policy\\_manual.pdf](http://www.wtcsystem.edu/board/pdf/policy_manual.pdf).

<sup>45</sup> WTCS. (2013). Administrative Bulletin: Program Advisory Committees. Retrieved from <http://systematic.wtcsystem.edu/Policy/Adminbul/09-04.pdf>.

continue its successful facilitation of the current Joyce Foundation's RISE Initiative (described on p.15) scheduled to end in April 2014 (see letter on page 45). Smooth Transitions will continue coordination of and work with state and local level workforce agencies and technical college professionals to educate, engage, and develop commitment of adult career pathways. Smooth Transitions will facilitate regional collaborative planning teams, state meetings, and sector strategy conferences. The five regional collaborative planning teams will bring workforce agencies, education, business and industry, and government together to discuss strategic alignment related to work-based training opportunities, emerging industry trends, relevant certification exams, and challenges and opportunities in aligning strategies. Thirty-nine letters of commitment from engaged business partners are attached.

Feasible Plans to Develop Interconnecting Credentials. The Wisconsin DWD, WTCS, local workforce boards, and employer partners are leading a statewide effort, building on local Wisconsin models and drawing on national expertise, to make career pathways a more central part of Wisconsin's education and job training systems. Wisconsin has emerged as a national leader in the development of adult career pathways, in which courses taken for one credential automatically build to the next. Career Pathways include ladders and lattices through certificates, technical diplomas, and associate degrees. Table 8 outlines pathway components that each consortium member is addressing through the INTERFACE Project. This Project will provide opportunities for TAA-eligible workers, Veterans, and other adults to earn a variety of postsecondary credentials that have labor market value. Consortium members will incorporate these credentials including certificates, certifications, diplomas, and degrees into the proposed program design.

Feasible Plans to Incorporate Prior Learning Assessment Strategies. As explained above on page 18, consortium members will attend credit for prior learning professional development opportunities as

provided through Wisconsin's current TAACCCT grant, *Making the Future* (Core Element 6), and apply lessons learned to the Project's information technology-related programming.

**iii. Transferability and Articulation (Core Element 3):**

Non-credit to Credit-Bearing Credentials. In addition to acquiring needed knowledge, skills, and competencies through technical college educational programming, Wisconsin technical college students may acquire these through formal education or training programs at another postsecondary institution or through an employer or military service, or informal education and training experiences provided by employment, community service, or other life experiences. There is a new emphasis on credit courses—for example, WTCS incumbent worker training grants are moving toward credit-bearing coursework to allow adult learners additional entry and exit points for career laddering—upon which INTERFACE will build.

Transferability of Credit Between Consortium Members. The Wisconsin technical colleges have established guidelines for transfer of general education courses among the 16 institutions. All courses from the statewide list of accepted general education courses are accepted for transfer in place of identical numbered and identical credit value courses. All credit for prior learning awarded for a general education course by a participating college are accepted for transfer.<sup>46</sup>

All TAACCCT grant-funded curriculum development will be created using the Worldwide Instructional Design System (WIDS), a division of the WTCS Foundation, Inc., and be made available in the curriculum repository so all colleges can access it, thus decreasing duplication of effort and increasing transferability between colleges. WIDS is a comprehensive design approach and methodology, supported by application and professional development tools, for designing and planning performance-based learning and teaching.

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<sup>46</sup> WTCS. (2009). General Education Articulation: Wisconsin Technical Colleges Agreement.

Articulation Agreements. Within the 16 consortium members there are 143 Information Technology articulation agreements already established with four-year institutions. Agreements exist with all comprehensive universities in the University of Wisconsin System. Each Wisconsin technical college has staff trained to advise students of courses to take at the two-year level and to support transition on their educational journeys to reach career goals.

The Wisconsin consortium will partner with Bellevue University (BU), a recognized leader in online learning, to extend participant education opportunities beyond the associate degree level. Several online information technology-related Bachelor and Master Degree programs are available through BU's National Center of Academic Excellence in Information Assurance Education, including Computer Information Systems, Cybersecurity, Management of Information Systems, and Project Management.<sup>47</sup> BU will accept credits earned in WTCS associate degree programs to fulfill General Education Core Curriculum requirements towards bachelor degree programs, as well as credit for training completed on the job or in the military. Through the articulation agreement with the Wisconsin consortium, transfer and application fees will be waived. BU will also develop a learner web site for each WI consortium member college to allow for easy access and information.<sup>48</sup>

**iv. Online and Technology-Enabled Learning (Core Element 4):**

Advanced Technology into Program Design and Delivery. Each consortium member has identified information technology-related programs that will make a local impact on industry sectors important within their districts. These include healthcare, manufacturing, logistics, and business. Each college will implement technology strategies into their college that meet the needs of participants. For example, Northcentral Technical College will create mediascape collaborative learning stations to create an open projects lab allowing for information sharing between several participants, promoting teamwork which replicates real-world work environments.

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<sup>47</sup> Bellevue University. (2013). *Information and Media Technology Degrees.*

<sup>48</sup> Bellevue University. (2013). Retrieved from <http://www.bellevue.edu/community-college/transfers.aspx>.

The INTERFACE Project will support the enhancement and maintenance of an Adult Careers Pathways website that will include links to ladder curriculum, Job Centers, employers, Wisconsin TechConnect (a statewide online employment information system), WTCS graduate employment placement reports, transfer information, articulation agreements, and continuing education opportunities. Industry partners, workforce agencies, and education will use the website to improve programming and advising.

Technology Strategies to Impact Program Outcomes. Identified as a key strategy to positively impact program outcomes, IT mobile learning applications will be developed to raise learner confidence, increase the effectiveness of learning, and lead to accelerated completion rates and mastery. One of the INTERFACE Project consortium members, Fox Valley Technical College (FVTC), serves local, regional, and national business and industry, as well as educational partners in developing e-learning content, mobile apps, audio and video content, course development, software training and application development, through its Learning Innovations Center (Center). In the INTERFACE Project, FVTC will provide assistance to all 16 colleges in developing 375 mobile learning applications<sup>49</sup> designed to supplement instruction.

FVTC will leverage the Center's experience and work in the Round 2 TAACCCT grant award, *Making the Future*, where the Center is building an applications infrastructure, GAMMA+, to develop content, pilot, and adapt manufacturing-based learner mobile apps to aid in instruction for the 16 Wisconsin consortium colleges. In the INTERFACE Project, the Center will work with Wisconsin's technical college instructors who wish to design and develop custom-driven applications and multimedia content centered on education and training. In Year One, the Center will develop technical aspects of the mobile apps based on content designed by faculty at the respective colleges. In Years Two and Three, mobile apps will be examined for feedback by

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<sup>49</sup> For more information, visit <http://fvctlearninginnovations.com>.



other college reviewers and industry partners. After an initial pilot in an FVTC IT course, the apps will be placed in the repository of mobile apps open to instructors and students of WTCS programs, and ultimately anyone, per grant guidelines, allowing participating faculty to embed the finalized mobile apps into new or existing courses and programs. By Year Four, a unique network will have been created across the technology-infused programs.

All Project curricula and training materials created or developed with the support of the grant will be publicly licensed under a Creative Commons Attribution 3.0 License as appropriate. All online and technology-enabled content and courses developed under this SGA will incorporate the principles of universal design in order to ensure that they are readily accessible to qualified individuals with disabilities. The content and courses will be in full compliance with the Americans with Disabilities Act and Sections 504 and 508 of the Rehabilitation Act of 1973 as amended and the Web Content Accessibility Guidelines 2.0 Level AA. Consortium members will adhere to all technical standards for digital assets and intellectual property rights as listed in the SGA.

v. **Strategic Alignment (Core Element 5):**

Governor's Economic Development and WIA-WP Workforce. As Wisconsin's lead economic development agency, with more than 600 regional and local partners, the Wisconsin Economic Development Corporation (WEDC) fosters the cooperation necessary to support sustainable business growth and job creation. The WEDC Board is comprised of 15 members, led by the Governor, which includes four legislators, eight private sector leaders, and two ex-officio cabinet secretaries. Governor Walker established a goal of creating 250,000 Wisconsin jobs by January 2015. WEDC's FY14 strategic plan captures four principles to obtain this aggressive and attainable goal, two of which particularly align with INTERFACE initiatives: 1) engage business and 2) measure and be accountable. INTERFACE will support the Governor's economic development plan's goals to align the maps, metrics, and strategies of key economic development partners; align workforce

agencies and economic development regions; and develop cross-agency, rapid response capabilities that produce custom solutions to advance key industry and business consortia opportunities.<sup>50</sup> (See Strategy 1.1, activity 1, p.31).

Furthermore, INTERFACE aligns with the Wisconsin Workforce Investment Act – Wagner Peyser (WIA-WP) integrated state workforce plan’s (program years 2013-2017) key priority of “Improving the alignment between the skills needed by private sector employers and the education and job training systems that provide the pipeline of workers.”<sup>51</sup> These focus areas will be supported through strategies the INTERFACE consortium developed during face-to-face meetings with education and workforce agency key leaders: 1) host five regional local collaborative planning team meetings twice a year to bring workforce agencies, education, business and industry, and government together to discuss strategic alignment related to work-based training opportunities, emerging industry trends, challenges, and opportunities, etc.; 2) host meetings twice a year with workforce agencies, education, and government leaders to share information mined from regional collaborative planning team meetings, discuss continuing and new strategic initiatives, and partner on relevant strategies to decrease resource duplication and increase advancement; and 3) host a statewide sector strategy conference annually to present missions and visions, share best practices, and increase knowledge about sector strategies: employer engagement, partnership building, effective industry analysis, and design of industry-relevant training programs. State and national representatives of the IT industry, leadership from key public systems such as workforce agencies, higher education, economic development, and employment support services, and legislative members will be provided opportunities for shared learning and building connections among partners that might be focused on the same industry.

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<sup>50</sup> WEDC. (2013). Strategic Plan. Retrieved from <http://inwisconsin.com/content/uploads/2013/02/2014-StratPlan-Final1.pdf>.

<sup>51</sup> Program Years 2013-2017 Workforce Investment, Wagner-Peyser Act, and the Agricultural Outreach State Plan (2013). Retrieved from [http://dwd.wisconsin.gov/dwdwia/PDF/wisconsin\\_integrated\\_state\\_plan\\_to\\_dol\\_060313.pdf](http://dwd.wisconsin.gov/dwdwia/PDF/wisconsin_integrated_state_plan_to_dol_060313.pdf)

Employer Involvement. Employers have had substantive involvement in the development of INTERFACE and will be engaged throughout the grant award period. Before a college can begin to offer a new academic program, it must move through the WTCS approval process, which requires surveying employers for labor market demand and trends, career pathway/job advancement, full- and part-time employee hiring projections, wages, willingness to hire graduates, and willingness to participate on program advisory committees.<sup>52</sup> The new programs that the INTERFACE Project supports have gone or will go through this intense development with employers.

Through the program advisory committees (see p.10), employers also attend curriculum development meetings that provide a picture, in graphic chart form, of what the worker does in terms of duties, tasks, knowledge, skills, traits, and in some cases the tools the worker uses.<sup>53</sup> Once curriculum is developed, advisory committee members continue to provide direction to college deans and faculty to keep training pertinent. As noted above, INTERFACE will host regional collaborative planning teams twice a year to bring workforce agencies, education, business and industry, and government together to discuss strategic alignment related to work-based training opportunities, emerging industry trends, and challenges and opportunities in aligning strategies. Thirty-nine letters of commitment from engaged business partners are attached.

Work-Based Training Opportunities. Several of the identified INTERFACE programs already have a work-based learning component as part of the curriculum, most existing as internships. For those that do not, INTERFACE will explore the design and delivery of employer-sponsored work-based training that is tied to the IT industry sector (see p.19 above). The Project will take advantage of annual WTCS state-called meetings with Information Technology deans to explore best practices

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<sup>52</sup> WTCS. (2012). Educational Services Manual: Program Approval Process. Retrieved from <http://systematic.wtcsystem.edu/Instruction/Program-development-process/new-program-development.htm>.

<sup>53</sup> DACUM. (2013). Welcome. Retrieved from <http://www.dacum.org/>.

and new options for incorporating work-based training into the curriculum. In addition, 29 businesses have committed to hosting internships (see attached letters).

Public Workforce System Collaboration. The level of collaboration between INTERFACE and the public workforce system has been and will continue to be significant. The INTERFACE application development team met twice with key workforce agency leaders to discuss gaps in service, training, and systems that support TAA-eligible, Veteran, and adult learners. Attendees included representatives from four Wisconsin technical colleges, a TAACCCT Round 2 grant awardee, WI Workforce Development Association (WWDA), WTCS, DWD, WI Job Service, Workforce Investment Boards, WI Economic Development Corporation, and Smooth Transitions (facilitator of the Joyce Foundation RISE Initiative). INTERFACE will also partner with the Job Center of Wisconsin to have a technical college presence at sponsored Career Expo events throughout the State, especially those targeted at Veterans, to allow for information related to information technology-related programs and career pathways. Letters confirming commitment from DWD and WWDA are included (see p.44-45), and a letter from the DWD Secretary is available upon request. Finally, thirty-nine information technology-related companies across the State have committed to INTERFACE (see attached letters).

Incorporation of Projects and Tools Developed by Philanthropic Organizations, Etc. Each consortium member has an independent, non-profit Foundation to promote the value of technical education through scholarships for tuition, textbooks, fees, and/or other educational expenses, as well as grants and/or loans to offset emergency expenses that learners incur. Each Foundation Board is comprised of members representing business and community leaders. All 16 Foundation Executive Directors have signed a resolution to use current and future strategies to support INTERFACE Project participants (available upon request).

The Wisconsin Technical College System Foundation is a 501(c)(3) Wisconsin not-for-profit corporation dedicated to the advancement of vocational, technical, and adult education in Wisconsin. “In 1993, Wisconsin’s 16 technical colleges partnered with the WTCS Foundation to create a performance-based instructional design system effective for both education and industry. A statewide advisory team collaborated to build best practices and learning theories into Worldwide Instructional Design System (WIDS) curriculum-design software.”<sup>54</sup> All newly developed INTERFACE curriculum will be created in the web-based WIDS (curriculum management system) and made available in the curriculum repository so all consortium colleges can access.

INTERFACE will also build on the success Wisconsin has had through the Joyce Foundation’s Shifting Gears program. In 2012, the Foundation published a report on the evaluation of the first five years of Shifting Gears.<sup>55</sup> The evaluation team found that “four of the six Shifting Gears states demonstrated traction on the ground by implementing innovative strategies to serve low-skilled adults” (p.3). Illinois, Indiana, Minnesota, and Wisconsin all “pursued a career pathway framework, including a bridge component, to improve transition between adult basic education programs and community and technical college workforce programs” (p.3). INTERFACE will continue the momentum already created and take philanthropic partnerships to the next level.

vi. **Alignment with Previously-Funded TAACCCT Projects (Core Element 6):** The INTERFACE Project’s incorporation of previously-funded TAACCCT projects to decrease duplication and extend geographical reach of the TAACCCT program is extensive. Several current TAACCCT Project awardee leads have agreed to provide mentoring for the INTERFACE Project.

- **Louisiana/Mississippi’s “Retraining the Gulf Coast Workforce through IT Pathways Consortium”** will mentor in two areas: 1) development of a common IT foundation

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<sup>54</sup> WIDS. (2013). Our History. Retrieved from <http://www.wids.org/Home/AboutUs.aspx>.

<sup>55</sup> Roberts, B. and Price, D. (December 2012). Strengthening State Systems for Adult Learners: An Evaluation of the First Five Years of Shifting Gears. Retrieved from [http://www.joycefdn.org/assets/1/7/SG\\_Strengthening\\_State\\_Systems\\_Report\\_-\\_final.pdf](http://www.joycefdn.org/assets/1/7/SG_Strengthening_State_Systems_Report_-_final.pdf)

curriculum and 2) creation of targeted curriculum and refresher courses to support IT certification testing.

- The **Nebraska** “IMPACT Project” consortium will mentor in two areas: 1) development and effective implementation of a grant advisory board and 2) assessment of participants to increase student success.
- **Wisconsin’s** “Making the Future” consortium will mentor in two areas: 1) credit for prior learning and 2) data collection between the Wisconsin consortium members, Wisconsin Technical College System, and Wisconsin Department of Workforce Development.
- **Fox Valley Technical College’s** “Advanced Manufacturing Pathways PLUS” project will provide guidance in developing mobile applications for INTERFACE participants.

**vii. Project Workplan:** The INTERFACE Project Workplan includes feasible and realistic activities and timeframes, identifies key implementers, and clearly specifies the roles of partners. Costs associated with all Project activities are consistent with costs identified in the proposed budget. A complete accounting of expected Project deliverables, including new intellectual property and expected dates of delivery to DOL, are clearly outlined.

Project programs will be developed and offered within the first 36 months of the period of performance with grant funds allocated for program development and delivery expended during that time period. Consortium members will begin enrolling participants in education and training programs no later than 18 months after the date of grant award. The final 12 months of the period of performance will be limited to gathering information and data for reporting outcome measures and completing the requirements for the third party evaluation. Consortium members will identify third-party subject matter experts to conduct reviews of the deliverables produced through the

Project. NTC, as the consortium lead, will provide DOL with the results of the reviews and the qualifications of the reviewer(s) at the time the deliverables are provided to the Department.

**Table 9: Detailed Project Workplan**

SGA Goal 1: Increase Attainment of Certifications, Certificates, Diplomas, and Other Industry-Recognized Credentials for Target Populations in Growth Industry Sectors (i.e., IT)						
Activities		Implementers (Roles)	Costs		Time	
Strategy 1.1: Strategic Alignment (CORE ELEMENT 5)	1) Establish a framework for aligning regional/state initiatives that consists of a Wisconsin Team that has representation from five Regional Collaborative Planning Teams consisting of College Reps, Industry Partners, Sector Alliances, Job Services, and WDBs to maximize resources and avoid duplication	<u>NTC</u> (Oversee consortium coordination related to activity); <u>Smooth Transitions</u> (Coordinate and facilitate state and regional teams); <u>Consortium Colleges, TAACCT Round 2 WI Grant, Industry Partners, DWD, WEDC, WDB, WTCS, and Sector Alliances</u> (Assign a representative to attend and participate in Collaborative Teams)	Strategy Total:	\$2,262,664	Start Date:	1-Jan-14
			Equipment:	\$0	End Date:	30-Sep-16
	2) Research and adopt statewide baseline core competencies for a standardized computer literacy course that meets minimum requirements to successfully navigate college and align with entry level skills for employment	<u>Consortium Colleges</u> (Develop/modify curriculum to align Basic Computer classes offered at the Colleges and Job Centers); <u>WDB and/or DWD</u> (Participate in curriculum development/modification to meet employer needs)	Year 1:	\$638,401	Deliverables:	1) Bi-Annual Statewide and Regional Collaborative Planning Team Meetings; 2) Annual Sector Strategy Workshop (years two and three); and 3) Standardized Basic Computer Literacy Course Offered in each College District
			Year 2:	\$721,483		
			Year 3:	\$734,090		
Year 4:	\$168,689					
Strategy 1.2: Establish statewide systematic framework for PLA in IT and Related Careers (CORE ELEMENTS 1, 2 & 6)	1) Consortium Colleges will participate in professional development training sessions offered by WI's <i>Making the Future</i> (Round 2 TAACCCT Grant) focused on implementing PLA; and 2) All colleges will commit to implementing at least 1-3 recommendations in their grant funded program pathway	<u>Center for Adult &amp; Experiential Learning</u> (Offering professional development via <i>Making the Future</i> TAACCCT 2 Grant); <u>All Colleges</u> (Incorporating strategies)	Strategy Total:	\$457,322	Start Date:	1-Jan-14
			Equipment:	\$0	End Date:	1-Jan-15
			Year 1:	\$139,064	Deliverables:	Each consortium member implements 1-3 PLA strategies
			Year 2:	\$136,705		
			Year 3:	\$134,381		
Year 4:	\$42,172					
SGA Goal 2: Introduce or Replicate Innovative and Effective Methods for Curriculum Development and Delivery to Improve Learning Outcomes to Address Industry Needs						
Activities		Implementers (Roles)	Costs		Time	
Strategy 2.1: Online and Technology-Enabled Supplemental Learning (CORE ELEMENT 4 & 6)	1) Develop the processes to build, store, pilot and use project-related Mobile Applications for the 16 consortium members' programs of study & 6)	<u>FVTC</u> (Creating Mobile App repository; Working with content experts to develop/customize mobile learning apps; and Publicly licenses mobile apps created with grant funds under a Creative Commons Attribution 3.0 License)	Strategy Total:	\$1,732,009	Start Date:	1-Oct-13
			Equipment:	\$0.00	End Date:	30-Sep-15
			Year 1:	\$383,488	Deliverables:	1) 375 Mobile Apps developed and/or customized; and 2) On-line repository of IT Mobile Apps are available for broad-based dissemination
			Year 2:	\$642,504		
			Year 3:	\$641,727		
Year 4:	\$64,290					

<b>Strategy 2.2: Implement Industry-Driven Road Maps/Adult Career Pathways in IT and Related Careers (CORE ELEMENTS 1, 2, &amp; 4)</b>	1) Develop, modify, contextualize, or chunk curriculum based on program and pathway using the Worldwide Instructional Design System (WIDS); 2) Develop natural exit/entry points to and from employment; 3) Organize curriculum, as possible, into stackable and/or latticeable industry recognized credentials that are portable and/or transferable; 4) Continue to work with UW schools, as well as other 4-year institutions to ensure curriculum transferability and program articulation; 5) Develop articulation agreement with Bellevue University in Nebraska; 6) Train participants; 7) Offer annual IT Career Expos; 8) Increase the number of internships and/or work-based learning opportunities; 9) Enhance and promote IT Career Pathways on the WTCS sponsored Adult Career Pathway site; and 10) Implement system of continuous improvement to review and modify pathways as necessary.	<b>All 16 Colleges</b> (Expanding/building capacity; Modifying and/or developing curriculum; Reformatting delivery mode; Modularizing or stacking courses; Embedding industry standards and/or certificates; Promote articulation agreements with 4-year institutions; and/or Conduct a Quality Review Process on grant funded programs); <b>Industry</b> (Reviewing and approving curriculum changes or modifications; Serve as Subject Matter Experts in reviewing curriculum; Hire graduates; and Participate in Job Expos); <b>Bellevue University</b> (Waive transfer and application fees based on articulation agreement with consortium; and Develop learner website for easy access and information retrieval by students); <b>WTCS</b> (Work with NTC to enhance Adult Career Pathway Website; and Responsible for maintaining website)	<b>Strategy Total:</b>	\$18,307,919	<b>Start Date:</b>	1-Oct-12
			<b>Equipment:</b>	\$1,710,994	<b>End Date:</b>	30-Sep-15
			<b>Year 1:</b>	\$6,438,340	<b>Deliverables:</b>	1) 16 Colleges have established industry-driven road maps/pathways to IT and related careers; 2) Two new Associate Degree programs; 3) Up to nine new certificates will be developed; 4) Up to three gen ed courses will be contextualized with IT specific content; 5) At least 10 new courses will be developed; 6) IT Career Expos offered annually in each district; 7) Enhanced Adult Career Pathway website; and 8) IT related articulation agreement in place between all 16 colleges and Bellevue University.
			<b>Year 2:</b>	\$5,502,725		
			<b>Year 3:</b>	\$5,818,424		
			<b>Year 4:</b>	\$548,428		
<b>SGA Goal 3: Demonstrate Improved Employment Outcomes</b>						
<b>Activity</b>		<b>Implementer(s)</b>	<b>Costs</b>		<b>Time</b>	
<b>Strategy 3: Statewide Dissemination of Program Graduate Employment Data</b>	Develop a sustainable system for tracking and reporting graduate outcomes for a Wisconsin Employment Scorecard	<b>Consortium Colleges</b> (Graduate Follow-Up, Client Reporting); <b>WTCS</b> ( Develop Metrics, Data Dictionary, Manage and Post Scorecard); <b>DWD</b> (UI Data)	<b>Strategy Total:</b>	\$499,600	<b>Start Date:</b>	1-Jan-14
			<b>Equipment:</b>	\$0	<b>End Date:</b>	30-Sep-16
			<b>Year 1:</b>	\$236,470	<b>Deliverables:</b>	Wisconsin Employment Results Scorecard
			<b>Year 2:</b>	\$118,140		
			<b>Year 3:</b>	\$75,180		
			<b>Year 4:</b>	\$69,810		



### 3. **PROJECT IMPACT:**

INTERFACE is committed to collect, report, and effectively use outcome data to continually improve and inform program design. The University of Wisconsin—Stout will be retained as the third-party evaluator. UW—Stout is a comprehensive, career-focused polytechnic university located in western Wisconsin, accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, and one of 13 four-year campuses and 13 two-year campuses in the University of Wisconsin System. It served 9,247 students in fall 2012 and was the first higher education recipient of the Malcolm Baldrige Award. The External Evaluators, UW—Stout representatives Libby Smith, Associate Institutional Planner of the Applied Research Center, and John Killingsworth, Assistant Professor of Construction Management at the STEM College, will design and execute a rigorous evaluation of the INTERFACE Project to ensure quality, validity, and accountability. Additional information is outlined in the attached Summary Evaluation Plan.

i. **Analysis of Outcome Projections:** Each consortium college provided targets based upon respective career pathways that will be developed, improved, and/or expanded. The chart data was aggregated based on instructions provided for each outcome.

<b>Table 10: <i>INTERFACE Project Outcome Measures</i></b>			
<b>Outcome Measures</b>		<b>Targets for All Participants</b>	
<b>1</b>	<b>Total Unique Participants Served:</b> Cumulative total number of individuals entering any of the grant-funded programs offered	Year 1: 510 Year 2: 1,251 Year 3: 1,285 Year 4: 0	Total: 3,046
<b>2</b>	<b>Total Number of Participants Completing a TAACCCT-Funded Program of Study:</b> Number of unique participants having earned all of the credit hours (formal award units) needed for the award of a degree or certificate in any grant-funded program	Year 1: 148 Year 2: 480 Year 3: 705 Year 4: 296	Total: 1,629
<b>3</b>	<b>Total Number of Participants Still Retained in their Program of Study or Other TAACCCT-Funded Program:</b> Number of unique participants enrolled who did not complete and are still enrolled in a grant-funded program of study	Year 1: 198 Year 2: 444 Year 3: 645 Year 4: 203	Total: 1,490
<b>4</b>	<b>Total Number of Participants Completing Credit Hours:</b> Total number of students enrolled that have completed any	Year 1: 383 Year 2: 1,069	Total: 2,923

	number of credit hours to date	Year 3: 1,192 Year 4: 279	
5	<b>Total Number of Participants Earning Credentials:</b> Total number of participants completing degrees and certificates in grant-funded programs of study	Year 1: 143 Year 2: 512 Year 3: 734 Year 4: 274	Total: 1,663
6	<b>Total Number of Participants Enrolled in Further Education After TAACCCT-funded Program of Study Completion:</b> Total number of students who complete a grant-funded program of study and enter another program of study	Year 1: 66 Year 2: 186 Year 3: 253 Year 4: 86	Total: 591
7	<b>Total Number of Participants Employed After TAACCCT-funded Program of Study Completion:</b> Total number of students (non-incumbent workers only) who completed a grant-funded program of study entering employment in the quarter after the quarter of program exit	Year 1: 40 Year 2: 304 Year 3: 527 Year 4: 398	Total: 1,269
8	<b>Total Number of Participants Retained in Employment After Program of Study Completion:</b> Total number of students (non-incumbent workers only) who completed a grant-funded program of study and who entered employment in the quarter after the quarter of program exit who retain employment in the second and third quarters after program exit	Year 1: 40 Year 2: 204 Year 3: 440 Year 4: 419	Total: 1,103
9	<b>Total Number of Those Participants Employed at Enrollment Who Received a Wage Increase Post-Enrollment:</b> Total number of students who are incumbent workers and who enrolled in a grant-funded program of study who received an increase in wages after enrollment	Year 1: 35 Year 2: 226 Year 3: 313 Year 4: 243	Total: 817

Some colleges will not serve participants in Year 1 depending on the level of curriculum development and revisions required; others will begin training right away. Thus, the numbers of participants in Year 1 will be lower and gradually increase throughout the Project period. It is anticipated that the numbers in Year 3 will be sustainable as the INTERFACE Project develops strong information technology-related strategies that support adult learners in efficient training that routes them to placement in well-paying careers. Even though grant-funded training will not be offered in Year 4 per DOL guidelines, Year 4 data is included for those participants already in the pipeline and can add to outcome measurements.

Appropriate Balance of Outcomes versus Other Deliverables. The projected outcomes and deliverables of the INTERFACE Project are well mixed; 3,046 students will be served and tracked to meet the identified Outcome Measures, and deliverables will be disseminated to consortium members, stakeholders, DOL, and other TAACCCT grantees as appropriate.

ii. **System or Process for Tracking and Reporting Outcome Measures:**

Procedures and Systems: WTCS has an identified process for collecting and reporting required data on a consistent basis among the 16 college districts: “The Client Reporting System records contain information about persons served through grants and students enrolled in college courses.”<sup>56</sup>

Districts submit grant activity records for each client to WTCS for validation annually. This client data is used for state and federal reporting, data analysis, and budget planning. WTCS is required to collect demographic data on individuals who receive services, including course offerings, from the college districts. Learner information collected includes name, social security number, district, student ID, sex, ethnic category, home residence code, birth date, year of high school graduation, highest grade completed at enrollment, and work status at enrollment, as well as whether or not the learner is academically or economically disadvantaged, a displaced homemaker, single parent, person with a disability, incarcerated, or has limited English proficiency. Grant activity records include data related to counseling, recruitment, placement, and financial aid.

Each consortium member has a Client Reporting Specialist and Institutional Researcher who work in tandem to submit accurate records by established deadlines. Information is accessible through WTCS and via web-based databases. Data will be available to the INTERFACE Project Manager, consortium members, and External Evaluator as needed for tracking, report development, and continuous improvement.

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<sup>56</sup> WTCS. (May 2013). Client Reporting System Manual (Fiscal Year 2013-14). Retrieved from <http://systematic.wtcsystem.edu/MIS/DataSys/Client/Client-Combined-Manual-2013-14.pdf>.

Additional resources and databases that will be utilized include the National Student Clearinghouse; Wisconsin Association of Independent Colleges and Universities; WTCS and Wisconsin Department of Public Instruction (DPI) State Longitudinal Data Systems; WTCS Graduate, Employer, and Longitudinal Surveys; and DWD Labor Market Information Systems. Formal agreements and partnerships exist between WTCS, DWD, and DPI to share data. As detailed in the evaluation plan and on page 38 below, the External Evaluator will meet regularly with the Project Manager and each college's Client Reporting Specialist and Institutional Researcher to share, analyze, and report findings related to the Outcomes Measures and Employment Results Scorecard.

Identify and Address Gaps in Tracking Procedures. Wisconsin's current TAACCCT grant, *Making the Future*, is in the process of enhancing a data-sharing agreement with the DWD which will continue to allow the consortium access to Unemployment Compensation data for the participants and comparison cohorts from each participating college. Using multiple identifiers, the DWD can extract individual-level data for specific students including employment at a specific workplace and earnings. Access to this information will allow the External Evaluator to calculate employment rate, employment retention rate, and average earnings, and support data for the online Employment Results Scorecard. Building off of the previously funded TAACCCT grant, *Making the Future*, an Implementation Data Tracking Form that identifies data each consortium member needs to track will be reviewed to determine what differences, if any, there are between Round 2 and Round 3 data collection needs. Each college will modify internal data collection systems (PeopleSoft, Banner, etc.) to account for any gaps in data gathering. The unit-level data will be transferred into an Excel document and kept in a master spreadsheet by the Program Manager. Each college's data will be submitted to the External Evaluator and Project Manager via File Transfer Protocol (FTP).

All consortium members follow the directives outlined in the Family Education Rights and Privacy Act (FERPA) for maintaining student records.<sup>57</sup> No information that any area outside of the colleges may have concerning a student, outside of directory information, can be released to any third party without the written permission of the student. Only authorized personnel can release directory information over the telephone, as long as the student's record does not have a privacy flag. Student authorization is not required for disclosure.

**iii. Using Data for Continuous Improvements:**

Describe Processes/Procedures for Regular Data Review: "Governor Walker has initiated a state-of-the-art Labor Market Information System (LMIS) through the DWD as part of his Workforce Investment Plan" (p.15).<sup>58</sup> The system will match individuals to in-demand jobs by focusing on common knowledge and skills and work activities, opening doors to new job opportunities. INTERFACE will support state agency meetings so that data findings can be shared and training adapted by consortium members to meet industry need and enhance employer skill.

WTCS and the consortium colleges benefit from a Quality Review Process (QRP), which involves a critical analysis of data to determine the root cause of performance gaps as well as identify and evaluate strategies to improve performance. Each educational program must be evaluated at least once every five years.<sup>59</sup> INTERFACE will take advantage of QRP to review programs identified in this application that fall within the four-year grant award period; performance data will be made available to the External Evaluator and Project Manager.

INTERFACE will create and implement the DOL Employment Results Scorecard in partnership with WTCS and the DWD (see Strategy 3, activity 1, p.32). WTCS has established guidelines for each of the 16 technical colleges to collect and report data to the Systems Office on a

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<sup>57</sup> NTC. (2013). Privacy and Access to Student Records. Retrieved from <http://www.ntc.edu/sites/default/files/pdf/policy/Privacy%20and%20Access%20to%20Student%20Records.pdf>.

<sup>58</sup> WI DWD. (2013). Wisconsin Workforce Investment Act Wagner-Peyser Act Agricultural Outreach Plan 2013-2017. Retrieved from [http://dwd.wisconsin.gov/dwdwia/PDF/wisconsin\\_integrated\\_state\\_plan\\_to\\_dol\\_060313.pdf](http://dwd.wisconsin.gov/dwdwia/PDF/wisconsin_integrated_state_plan_to_dol_060313.pdf).

<sup>59</sup> WTCS. (2013). Quality Review Process. Retrieved from <http://systematic.wtcsystem.edu/qrp/QRPDS-Fact-Sheet.pdf>.

consistent basis. Training is provided so each college district effectively utilizes data in internal decision-making processes. With multiple data sharing agreements with the DWD already in place, both organizations are committed to the development and use of this online resource to support learners in career decision making.

The External Evaluator will meet regularly with the Project Manager and each college's Client Reporting Specialist and Institutional Researcher to share, analyze, and report findings related to the Outcomes Measures and Employment Results Scorecard (see External Evaluator Work Plan). Results will be combined with environmental scanning, input from employers and workforce agencies, and additional available data such as the WTCS Graduate Follow-Up Survey, Longitudinal Follow-Up Survey, and Employer Follow-Up Survey. Recommendations for program enhancements will be shared with college Presidents, Vice Presidents of Learning, academic deans, faculty, and student support services personnel.

Sustainability Plan: INTERFACE will leverage existing mechanisms where possible to maximize the sustainability of the strategies, activities, and employer partnerships. For example, continuous quality improvement processes will be enhanced during the grant award period through the development of the Employment Results Scorecard, tracking of Outcomes Measures, and increased conversations with workforce agencies and industry leaders. Through INTERFACE, WTCS and the 16 technical colleges will develop stronger communication systems, more consistent data reports, and greater opportunities for dissemination of results. Regular regional collaborative planning teams will be established so dialogue between workforce agencies, education, business and industry, and others can continue. Institutional Researchers from the consortium member colleges will continue to provide data results related to student persistence, retention, completion, and employment to appropriate personnel. Project funds support development of various models and pathway practices that, through the support structure and alignment of systems, can be evaluated through an intensive,

rigorous evaluation strategy (see evaluation plan). The result is colleges will have access to methodology, curriculum, data, and best practices that it would cost each institution thousands of dollars in time and resources to investigate on their own. In addition, the Project should have a significant effect on student retention, increasing the number of FTE students at each college that adopt best practices, and bringing in more tuition and fee revenue by preventing attrition.

#### **4. ORGANIZATIONAL CAPACITY AND PROJECT MANAGEMENT:**

Level of Capacity. Northcentral Technical College (NTC), the consortium lead, has valuable experience in administering federal grants through Department of Labor, Economic Development Administration, and Department of Education over the past five years. Infrastructure for supporting federal grants is currently in place, and NTC is committed to providing a quality program. NTC has demonstrated successful management of many projects requiring coordination of internal and external entities. Projects include a \$19.8 million Health Resources and Services Administration construction earmark; U.S. Department of Education funded Student Support Services and Educational Talent Search programs; State-funded Workforce Advanced Training grants for customized training for local businesses; and a \$1.9 million Department of Labor Community-Based Job Training grant.

INTERFACE will draw from existing structures to share information between institutions; however, to ensure consistency and effectiveness of grant initiatives, several key positions will be established. All Project staff will be employees of NTC. NTC's Director of Resource Development & Institutional Advancement will oversee startup and communications upon notification, acting as Transition Director until the Project Manager is hired. NTC will prepare a full job description and posting in advance of award to ensure the position can be hired in the first quarter. NTC will leverage existing College resources to support the Project until support staff are hired.

Project Management: A full-time Project Manager (PM) will take overall management responsibility for all INTERFACE Goals, Strategies, and Activities. The PM will report to NTC's Director of Resource Development & Institutional Advancement and will be the primary point of contact for DOL/ETA communication, reporting, and questions from the consortium. The PM will be responsible for engaging INTERFACE Project partners and facilitating planning, conferences, and communications (see organization chart) between involved systems and partners. The position will require a Master's Degree in Business Administration and/or a Certified Public Accountant and at least five years of strong project management experience. Background or experience in public education, workforce development, grant management, and DOL rules and regulations will be preferred but not required if commensurate experience is applicable.

The PM will hire a part-time Administrative Assistant to coordinate scheduling, appointments with different college and strategic teams, Project questions, communications between staff and member colleges, and other administrative management and support duties as required. The position will require a minimum of an Associate's Degree with at least three years' experience managing multiple priorities in an office environment.

A part-time Accounting Assistant will be hired who will have experience with general ledger recording, grants reporting, and financial services and accounting services, generally from within a college or higher education background. The position will require an Associate's Degree or equivalent combination of education/experience in a related field, three years of experience, with five years minimum experience preferred. Also preferred will be experience with federal reporting requirements, regulations, and fiscal regulations.

A part-time Web Design Specialist will develop, design, support, and maintain online pathways, including site architecture, navigation, and functional specifications to ensure real time web content and internet technologies. Special emphasis will be on the development and



implementation of dynamic, interactive ways of presenting information in support of the strategic goals of the grant. The position will require an Associate's Degree in Information Technology or a related field and a minimum of three years of work experience as a webmaster or related equivalent.

Efficient and Effective Communication. Consortium communication will be consistent and timely and build off of existing communication channels, such as state-called meetings and the use of WisLine, an audio-conference service used by WTCS colleges. Within the first two months after award, a mandatory consortium meeting will be held at NTC to discuss core Project Goals, Strategies, and Activities. Invitees will include each college's assigned project lead, academic deans, faculty, research personnel, accountants, learning center staff, and External Evaluator. A monthly telephone conference will bring together each college's core teams with at least one representative required at each scheduled meeting. Regular Project update email communications will be sent by the Project Manager to each college's identified leads to be shared as appropriate. WTCS-led and regularly scheduled meetings will be used as platforms for meeting with Information Technology deans and faculty, institutional researchers and client reporting specialists, adult basic and general education directors, and finance teams. The Project Manager will also be in regular communication with the External Evaluator.

Communication between NTC and DOL/ETA will occur at regular intervals to ensure compliance with federal regulations and grant requirements. Budget approvals, quarterly and annual reporting, and updates toward meeting outcome measures will be timely and accurate. NTC, as the lead institution, will carry forward consortium questions and communicate consistent answers so that all members are applying consistent processes and procedures.

Timely and Accurate Reporting. NTC, as well as all consortium members, are required by State law to publish a complete set of audited financial statements within six months of the close of each fiscal year. All consortium members are required to undergo an annual single audit in conformity with the

provisions of the Single Audit Act of 1984 and the Single Audit Act Amendments of 1996, the U.S. Office of Management and Budget Circular A-133, and the State of Wisconsin Department of Administration. NTC management is responsible for establishing and maintaining an internal control structure designed to ensure the assets of the government are protected from loss, theft, or misuse, and to ensure the reliability of financial and accounting records to allow for the preparation of financial statements in conformity with accounting principles generally accepted in the U.S.<sup>60</sup>

John A. Mehan, Managing Director of Baird, presented a report to the May 22, 2013, NTC Board of Trustees that highlighted NTC's fiscal strength.<sup>61</sup> According to the report, Moody's Investors Service has assigned an Aa1 rating to the NTC District's (WI) \$12.0 million General Obligation Promissory Notes. Concurrently, Moody's has affirmed the Aa1 rating on the District's outstanding general obligation debt, thus reflecting the District's sound financial operations supported by healthy operating reserves, ability to generate additional revenue under the State imposed operating mill cap, substantial and growing tax base, and average debt burden with aggressive principal amortization.

All consortium members must abide by WTCS procurement processes which include open and free competition, bid/RFP procedures and modifications, awards to responsible contractors, sole source and emergency procurements, competitive selection, cost/benefit analysis, state/government contracts, specific brand name instructional equipment, and consortium fiscal agents.<sup>62</sup>

## **5. BUDGET AND BUDGET JUSTIFICATION:**

The INTERFACE Project budget costs are justified and reasonable in relation to the Project's objectives and scope. The attached Budget Narrative outlines annual costs for personnel, fringe

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<sup>60</sup> NTC. (2013). 2012 Comprehensive Annual Financial Report. Retrieved from [http://www.ntc.edu/sites/default/files/pdf/current\\_publications/2012-13/2012%20NTC%20Comprehensive%20Annual%20Financial%20Report.pdf](http://www.ntc.edu/sites/default/files/pdf/current_publications/2012-13/2012%20NTC%20Comprehensive%20Annual%20Financial%20Report.pdf).

<sup>61</sup> Northcentral Technical College. (2013, May 22). District Board of Trustees Regular Meeting Agenda Packet.

<sup>62</sup> WTCS. (January 2013). Financial & Administrative Manual. Retrieved from <http://systematic.wtcsystem.edu/mis/DataSys/FAM/FAM-Manual.pdf>.

benefits, travel, equipment, supplies, contractual, construction, and other expenses needed to fully implement the Project across the State. The budget will be used for identified initiatives to support the overarching goals of the TAACCCT program: 1) increase attainment of degrees, certifications, certificates, diplomas, and other industry-recognized credentials that match the skills needed by employers to better prepare TAA-eligible workers, Veterans, and other adults for high-wage, high-skill employment or re-employment in Information Technology-related sectors; 2) introduce or replicate innovative and effective methods for designing and delivering instruction that address Information Technology-related industry needs and lead to improved learning, completion, and other outcomes for TAA-eligible workers, Veterans, and other adults; and 3) demonstrate improved employment outcomes. The Project includes adequate staff personnel devoted to achieving objectives. A detailed Budget Narrative is attached.

In today's technology age, computer literacy skills are as important as reading and writing skills and can be the vital link between unemployment and obtaining family supporting-wages. As mentioned above, INTERFACE will focus on two components of information technology: 1) basic computer literacy skill development and 2) information technology-related career pathways that lead to family sustaining wages in high growth occupations. INTERFACE has been built from a foundation of evidence and is aligned with previously-funded TAACCCT projects. The 16 Wisconsin Technical Colleges—together with nationally-recognized leaders in education, state-wide educational systems, workforce development systems, current TAACCCT grant recipients, and 39 businesses—will research and adopt core computer skill competencies and develop a standardized computer basics course; enhance credit for prior learning and experience; replicate successful career pathway designs; incorporate work-based learning/training opportunities; and develop mobile applications, serving 3,046 TAA-eligible, Veteran, and other adult learners in high-growth industries.



June 24, 2013

Mr. Steven Rietzke, Grant Officer
U.S. Department of Labor
Employment and Training Administration
Office of Grants Management, Room N4716
200 Constitution Avenue, NW
Washington, DC 20210

RE: SGA/DFA PY 12-10 – The Wisconsin INTERFACE Project

Dear Mr. Rietzke:

I am writing to offer my commitment to Wisconsin's INTERFACE Project (Intentional Networks Transforming Effective and Rigorous Facilitation of Assessment, Collaboration, and Education). This work builds on a strong foundation made possible with previous TAACCCT grant funding.

The Wisconsin Technical College System (WTCS) is the coordinating agency for the state's 16 technical colleges. The Department of Labor's goals – increasing credential attainment in key careers and sectors, innovating and replicating innovation, and demonstrating improved employment outcomes – are perfectly aligned not only with our strategic plan, but also with our new performance-based funding framework.

Wisconsin's technical colleges are the center of economic, workforce and community development. Our uniquely industry-driven curriculum includes cutting-edge Information Technology (IT) instruction across program areas, which is the focus of this grant. We develop competencies that are in high demand, which results both in student success and the sustained, enthusiastic support of our employer partners.

WTCS commits to support INTERFACE by:

- supporting System-level data collection and reporting for the Employment Results Scorecard;
• ensuring grant-funded curriculum is shared among our 16 colleges;
• leading dynamic discussions with UW System to strengthen transfer opportunities;
• aligning adult career pathway development with existing standards and processes; and
• assigning a WTCS liaison for the project's four-year term;
• providing meeting space for the local collaborative planning team and strategic alignment meetings;
• providing ongoing support of an annual sector strategies event.

I strongly support Wisconsin's INTERFACE Project and urge you to give it your full consideration.

Sincerely,

Morna K. Foy, President



Morna K. Foy, President
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STATE OF WISCONSIN
DWD
Department of Workforce Development
Scott Walker, Governor
Reginald J. Newson, Secretary
Lisa Boyd, Division Administrator

June 28th, 2013

Mr. Steven Rietzke, Grant Officer
U.S. Department of Labor
Employment and Training Administration
Office of Grants Management, Room N4716
200 Constitution Avenue, NW
Washington, DC 20210

RE: SGA/DFA PY 12-10 – The Wisconsin INTERFACE Project: Intentional Networks Transforming Effective and Rigorous Facilitation of Assessment, Collaboration, and Education

Dear Mr. Rietzke:

On behalf of Wisconsin's Department of Workforce Development, I am pleased to write this letter of support and commitment for the Wisconsin INTERFACE Project to the U.S. Department of Labor, an initiative by Wisconsin's sixteen technical colleges led by Northcentral Technical College. The INTERFACE Project is a statewide effort designed to address the demand for skilled workers in information technology-related careers by enhancing and expanding career pathways for TAA-eligible, Veteran, and other adult learners.

As the administrator of Trade Adjustment Assistance (TAA) worker services, Wisconsin's Job Service is committed to working with Wisconsin's 16 technical colleges to provide recruitment, screening, and referral of individuals to the training programs. In addition, Job Service agrees to collaborate with the schools throughout the grant period as necessary to discuss progress and/or additional informational needs that may arise.

The Department welcomes the opportunity to partner on an initiative that will build on the Regional Industry Skills Education (RISE) framework that was established through the Joyce Foundation's "Shifting Gears" program. As a joint partner in the RISE Initiative along with the Wisconsin Technical College System, the Wisconsin DWD recognizes the importance of demand driven, flexible and convenient postsecondary occupational education that result in industry-recognized credentials.

The INTERFACE Project will continue to strengthen statewide communication and alignment, support credit for prior learning as well as work-based learning, and provide the college prep and academic training needed to prepare for employment. The collaboration between DWD, WTCS, business and industry, and the consortium colleges will move these initiatives forward.

The INTERFACE Project will provide the framework intentional networks that lead to effective and rigorous assessment, collaboration, and education. Thank you for your consideration.

Sincerely,

Bruce R. Palzkill
Bruce R. Palzkill
WI Department of Workforce Development
Job Service Bureau

DETB-10489-E (R. 12/05/2011)

http://dwd.wisconsin.gov/

321 North Clark Street, Suite 1500 Chicago, Illinois 60654 312 782 2464 tel 312 595 1350 fax info@joycefndn.org e-mail www.joycefndn.org website

TheJoyceFoundation

June 27, 2013

Mr. Steven Rietzka, Grant Officer US Department of Labor Employment and Training Administration Office of Grants Management, Room N4716 200 Constitution Avenue, NW Washington, DC 20210

RE: SGA/DFA PY 12-10 – The Wisconsin INTERFACE Project

Dear Mr. Rietzke:

I am writing to you with strong support of Wisconsin’s INTERFACE Project (Intentional Networks Transforming Effective and Rigorous Facilitation of Assessment, Collaboration, and Education). This grant proposal aligns well with the career pathways work that I have funded in Wisconsin since 2007.

Wisconsin has been a leader in career pathways with their Regional Industry Skills Education (RISE) Initiative. The goal of the RISE initiative is to help secure good careers for low-income Wisconsin adults and a skilled workforce for employers by increasing the number of lower-skilled adults who earn postsecondary credentials related to high demand jobs. RISE has worked to create a state policy environment in which career pathways can flourish. Wisconsin technical colleges are offering contextualized on-ramp programs for students who are not yet college ready and have created stackable credential pathways to allow students to progress in the education and their careers.

This project is strategically aligned with state agency partners and plans, but also with the important progress being made under previous Trade Adjustment Assistance Community College and Career Training (TAACCT) grants.

I strongly support Wisconsin’s INTERFACE Project and urge you to give it your full consideration.

Sincerely,

Whitney Smith

Whitney Smith Program Director



June 24, 2013

Mr. Steven Rietzka, Grant Officer U.S. Department of Labor Employment and Training Administration Office of Grants Management, Room N4716 200 Constitution Avenue, NW Washington, DC 20210

RE: SGA/DFA PY 12-10 – The Wisconsin INTERFACE Project: Intentional Networks Transforming Effective and Rigorous Facilitation of Assessment, Collaboration, and Education

Dear Mr. Rietzke:

The Wisconsin Workforce Development Association, comprised of leadership from the eleven Workforce Development Boards in Wisconsin, is pleased to offer its commitment to the 16 Wisconsin technical college consortium in its bid to seek funding for the INTERFACE Project. WWDA understands the importance of connecting TAA-eligible job seekers to technical college training that is employer-driven and in stackable modules along career pathways.

WWDA, through the local Workforce Development Boards in Wisconsin, has access to over 15,000 local employers and 32 Industry Partnerships throughout the State. Industry Partnerships, led by the local Workforce Development Boards, are comprised of multiple employers that have common skills training needs and technical college representatives. The Industry Partnerships throughout Wisconsin are a venue for accessing information on common employer training needs and modifying existing curriculum.

We understand that aligning strategic priorities and working to collaborate more effectively is one of the main goals of the INTERFACE Project. Compression planning sessions with WWDA, WEDA, WTCS, and DWD during the development of this Project clearly showed that there is need for these various organizations that support TAA-eligible, Veteran, and other adult learners to communicate their missions, visions, strategies, goals, challenges, successes, and opportunities with each other—thus, essentially aligning our systems. WWDA is committed to participate in conversations that will inform project development and implementation throughout the Project period, and facilitate communication between technical colleges and WWDA members in pursuit of the Project’s goals.

Thank you for the opportunity to improve TAA employment and training services.

Sincerely,

Howard Teeter

Howard Teeter Chairman

3513 Anderson Street, #104 Madison, WI 53704 608.249.9001 x128 • www.wwda.org • wwdainfo@gmail.com