U.S. Department of Education

Washington, D.C. 20202-5335

APPLICATION FOR GRANTS UNDER THE

PROMOTING RIGOROUS CAREER AND TECHNICAL EDUCATION PROGRAMS OF STUDY
CFDA # 84.051C
PR/Award # V051C100009

OMB No. 1830-0568, Expiration Date: 05/31/2011
Closing Date: SEP 07, 2010

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This application was generated using the PDF functionality. The PDF functionality automatically numbers the pages in this application. Some pages/sections of this application may contain 2 sets of page numbers, one set created by the applicant and the other set created by e-Application's PDF functionality. Page numbers created by the e-Application PDF functionality will be preceded by the letter e (for

example, e1, e2, e3, etc.).

OMB No.4040-0004 Exp.01/31/2012

Application for Federal Assistance SF-424 Version 02

* 1. Type of Submission	* 2. Type of Application:	* If Revision, select appropriate letter(s):
[ ] Preapplication	[X] New	
[X] Application	[ ] Continuation	* Other (Specify)
[ ] Changed/Corrected Application	[ ] Revision	

* 3. Date Received:	4. Applicant Identifier:
9/7/2010	

5a. Federal Entity Identifier:	* 5b. Federal Award Identifier:
	N/A

State Use Only:

6. Date Received by State:	7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Wisconsin Technical College System Board

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
396006494	078396475

d. Address:

* Street1:	4622 University Ave
Street2:	
* City:	Madison
County:	Dane
State:	WI
Province:	
* Country:	USA
* Zip / Postal Code:	53707

e. Organizational Unit:

Department Name:	Division Name:
Wisconsin Technical College System Board	Teaching and Learning

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:	Ms.	* First Name:	Annette
Middle Name:	L		

* Last Name: Severson

Suffix:

Title: Associate Vice President, Office of Instruction

Organizational Affiliation:

Wisconsin Technical College System Board

* Telephone Number: (608)267-9064 Fax Number: (608)266-1690

* Email: ANNETTE.SEVERSON@WTCSYSTEM.EDU

Application for Federal Assistance SF-424 Version 02

9. Type of Applicant 1: Select Applicant Type:

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

10. Name of Federal Agency:

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.051C

CFDA Title:

Promoting Rigorous Career and Technical Education Programs of Study

*** 12. Funding Opportunity Number:**

ED-Grants-080610-001

Title:

Office of Vocational and Adult Education (OVAE): Promoting Rigorous Career and Technical Education Programs of Study

13. Competition Identification Number:

Title:

Wisconsin Advanced Manufacturing Pathway Education Network

14. Areas Affected by Project (Cities, Counties, States, etc.):

Secondary School Districts and Technical College Districts in Wisconsin

*** 15. Descriptive Title of Applicant's Project:**

Wisconsin Advanced Manufacturing Pathway Education Network--Expanding Regional Capacity for Educational Innovation and Workforce Development

Attach supporting documents as specified in agency instructions.

Attachment:
Title :
File :

Attachment:
Title :
File :

Attachment:
Title :
File :

Application for Federal Assistance SF-424 Version 02

16. Congressional Districts Of:
* a. Applicant: WI-All * b. Program/Project: WI-All

Attach an additional list of Program/Project Congressional Districts if needed.
Attachment:
Title :
File :

17. Proposed Project:
* a. Start Date: 10/1/2010 * b. End Date: 9/30/2011

18. Estimated Funding ($):

a. Federal	**$ 250000**
b. Applicant	**$ 107881**
c. State	**$ 0**
d. Local	**$**
e. Other	**$**
f. Program Income	**$ 0**
g. TOTAL	**$ 357881**

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

[ ] a. This application was made available to the State under the Executive Order 12372 Process for review on .
[ ] b. Program is subject to E.O. 12372 but has not been selected by the State for review.
[X] c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)**

[ ] Yes [X] No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

[X] **** I AGREE**

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:	Ms.	* First Name:	Annette
Middle Name:	L		
* Last Name:	Severson		
Suffix:			

Title:	Associate Vice President
* Telephone Number:	(608)267-9064
Fax Number:	(608)266-1690
* Email:	ANNETTE.SEVERSON@WTCSYSTEM.EDU
* Signature of Authorized Representative:	
* Date Signed:	

Application for Federal Assistance SF-424 Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Wisconsin Technical College Syst...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION A - BUDGET SUMMARY

U.S. DEPARTMENT OF EDUCATION FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	$ 16,710	$ 16,710	$ 16,710	$ 16,710	$ 0	$ 66,840
2. Fringe Benefits	$ 7,242	$ 7,242	$ 7,242	$ 7,242	$ 0	$ 28,968
3. Travel	$ 9,234	$ 9,234	$ 9,234	$ 9,234	$ 0	$ 36,936
4. Equipment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
5. Supplies	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. Contractual	$ 208,103	$ 208,103	$ 208,103	$ 208,103	$ 0	$ 832,412
7. Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
8. Other	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
9. Total Direct Costs (lines 1-8)	$ 241,289	$ 241,289	$ 241,289	$ 241,289	$ 0	$ 965,156
10. Indirect Costs*	$ 8,711	$ 8,711	$ 8,711	$ 8,711	$ 0	$ 34,844
11. Training Stipends	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
12. Total Costs (lines 9-11)	$ 250,000	$ 250,000	$ 250,000	$ 250,000	$ 0	$ 1,000,000

***Indirect Cost Information *(To Be Completed by Your Business Office)*:**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? [X] Yes [ ] No
(2) If yes, please provide the following information:
Period Covered by the Indirect Cost Rate Agreement: From: 7/1/2010 To: 6/30/2011 (mm/dd/yyyy)
Approving Federal agency: [X] ED [ ] Other (please specify): _____ The Indirect Cost Rate is 0%
(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:
[X] Is included in your approved Indirect Cost Rate Agreement? or, [ ] Complies with 34 CFR 76.564(c)(2)? The Restricted Indirect Cost Rate is 3.61%

ED Form No. 524

U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
Wisconsin Technical College Syst...

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

SECTION B - BUDGET SUMMARY

NON-FEDERAL FUNDS

Budget Categories	Project Year 1(a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	$ 62,730	$ 73,864	$ 73,864	$ 73,864	$ 0	$ 284,322
2. Fringe Benefits	$ 15,222	$ 20,017	$ 20,017	$ 20,017	$ 0	$ 75,273
3. Travel	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
4. Equipment	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
5. Supplies	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. Contractual	$ 29,929	$ 14,000	$ 14,000	$ 14,000	$ 0	$ 71,929
7. Construction	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
8. Other	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
9. Total Direct Costs (lines 1-8)	$ 107,881	$ 107,881	$ 107,881	$ 107,881	$ 0	$ 431,524
10. Indirect Costs	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
11. Training Stipends	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
12. Total Costs (lines 9-11)	$ 107,881	$ 107,881	$ 107,881	$ 107,881	$ 0	$ 431,524

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Standard Form 424B (Rev.7-97)

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management, and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. "4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. "1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. '794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. "276a to 276a-7), the Copeland Act (40 U.S.C. '276c and 18 U.S.C. "874) and the Contract Work Hours and Safety Standards Act (40 U.S.C. " 327-333), regarding labor standards for federally assisted construction sub-agreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. "1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. "7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. "1721 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance

of 1975, as amended (42 U.S.C. " 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) " 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. " 290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. ' 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with the provisions of the Hatch Act (5 U.S.C. "1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. '470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. "469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. "2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. "4801 et seq.) which prohibits the use of lead- based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

Signature of Authorized Certifying Representative:
Name of Authorized Certifying Representative: Annette Severson
Title: Associate Vice President
Date Submitted: 08/18/2010

Approved by OMB 0348-0046 Exp.

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

1. Type of Federal Action:	2. Status of Federal Action:	3. Report Type:
[ ] Contract [X] Grant [ ] Cooperative Agreement [ ] Loan [ ] Loan Guarantee [ ] Loan Insurance	[X] Bid/Offer/Application [ ] Initial Award [ ] Post-Award	[X] Initial Filing [ ] Material Change **For Material Change only:** Year: 0Quarter: 0 Date of Last Report:

4. Name and Address of Reporting Entity:	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime:
[X] Prime [ ] Subawardee Tier, if known: 0 Name: Wisconsin Technical College System Address: 4622 University Ave City: Madison State: WI Zip Code + 4: 53707-7874 **Congressional District, if known:** 02	Name: Address: City: State: Zip Code + 4: - **Congressional District,** if known:
6. Federal Department/Agency:	**7. Federal Program Name/Description:** CFDA Number, if applicable:
8. Federal Action Number, if known:	**9. Award Amount,** if known: $0
10. a. Name of Lobbying Registrant (if individual, last name, first name, MI): Address: City: State: Zip Code + 4: -	**b. Individuals Performing Services** (including address if different from No. 10a) (last name, first name, MI): Address: City: State: Zip Code + 4: -
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.	Name: Annette Severson Title: Associate Vice President Applicant: Wisconsin Technical College System Board Date: 08/18/2010

Federal Use Only:	Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements.

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal Loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form - LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance.

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

APPLICANT'S ORGANIZATION Wisconsin Technical College System Board	
PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE Prefix: First Name: Annette	Middle Name: L
Last Name: Severson	Suffix:
Title: Associate Vice President	
Signature: _____	Date: 08/18/2010

ED 80-0013 03/04

Certification of Eligibility for Federal Assistance in Certain Programs

I understand that 34 CFR 75.60, 75.61, and 75.62 require that I make specific certifications of eligibility to the U.S. Department of Education (ED) as a condition of applying for Federal funds in certain programs and that these requirements are in addition to any other eligibility requirements that ED imposes under program regulations. Under 34 CFR 75.60 – 75.62:

I. I certify that:

A. I do not owe a debt, or I am current in repaying a debt, or I am not in default (as that term is used at 34 CFR Part 668) on a debt:

1. To the Federal Government under a nonprocurement transaction (e.g., a previous loan, scholarship, grant, or cooperative agreement); or

2. For a fellowship, scholarship, stipend, discretionary grant, or loan in any program of ED that is subject to 34 CFR 75.60, 75.61, and 75.62, including:

- Federal Pell Grant Program (20 U.S.C. 1070a, et seq.);
- Federal Supplemental Educational Opportunity Grant (SEOG) Program (20 U.S.C. 1070(b), et seq.);
- State Student Incentive Grant Program (SSIG) 20 U.S.C. 1070c, et seq.);
- Federal Perkins Loan Program (20 U.S.C. 1087aa, et seq.);
- Income Contingent Direct Loan Demonstration Project (20 U.S.C. 1087a, note);
- Federal Stafford Loan Program, Federal Supplemental Loans for Students [SLS], Federal PLUS, or Federal Consolidation Loan Program (20 U.S.C. 1071, et seq.);
- William D. Ford Federal Direct Loan Program (20 U.S.C. 1087a, et. seq.);
- Cuban Student Loan Program (20 U.S.C. 2601, et. seq.);
- Robert C. Byrd Honors Scholarship Program (20 U.S.C. 1070d-31, et seq.);
- Jacob K. Javits Fellows Program (20 U.S.C. 1134h-1134l);
- Patricia Roberts Harris Fellowship Program (20 U.S.C. 1134d-1134g);
- Christa McAuliffe Fellowship Program (20 U.S.C. 1105-1105i);
- Bilingual Education Fellowship Program (20 U.S.C. 3221-3262);
- Rehabilitation Long-Term Training Program (29 U.S.C. 774(b));
- Paul Douglas Teacher Scholarship Program (20 U.S.C. 1104, et seq.);
- Law Enforcement Education Program (42 U.S.C. 3775);
- Indian Fellowship Program (29 U.S.C.774(b));
- Teacher Quality Enhancement Grants Program (20 U.S.C. 1021, et seq.);

OR

B. I have made arrangements satisfactory to ED to repay a debt as described in A.1. or A.2. (above) on which I had not been current in repaying or on which I was in default (as that term is used in 34 CFR Part 668).

II. I certify also that I have not been declared by a judge, as a condition of sentencing under section 5301 of the Anti-Drug Abuse Act of 1988 (21 U.S.C. 862), ineligible to receive Federal assistance for the period of this requested funding.

I understand that providing a false certification to any of the statements above makes me liable for repayment to ED for funds received on the basis of this certification, for civil penalties, and for criminal prosecution under 18 U.S.C. 1001.

08/18/2010

(Signature) (Date)

Annette Severson

(Typed or Printed Name)

Name or number of the ED program under which this certification is being made:
84.051C - Promoting Rigorous Career and Technical Education Programs of Study

Section 427 of GEPA

NOTICE TO ALL APPLICANTS

The purpose of this enclosure is to inform you about a new provision in the Department of Education's General Education Provisions Act (GEPA) that applies to applicants for new grant awards under Department programs. This provision is Section 427 of GEPA, enacted as part of the Improving America's Schools Act of 1994 (Public Law (P. L.) 103-382).

To Whom Does This Provision Apply?

Section 427 of GEPA affects applicants for new grant awards under this program. **ALL APPLICANTS FOR NEW AWARDS MUST INCLUDE INFORMATION IN THEIR APPLICATIONS TO ADDRESS THIS NEW PROVISION IN ORDER TO RECEIVE FUNDING UNDER THIS PROGRAM.**

(If this program is a State-formula grant program, a State needs to provide this description only for projects or activities that it carries out with funds reserved for State-level uses. In addition, local school districts or other eligible applicants that apply to the State for funding need to provide this description in their applications to the State for funding. The State would be responsible for ensuring that the school district or other local entity has submitted a sufficient section 427 statement as described below.)

What Does This Provision Require?

Section 427 requires each applicant for funds (other than an individual person) to include in its application a description of the steps the applicant proposes to take to ensure equitable access to, and participation in, its Federally-assisted program for students, teachers, and other program beneficiaries with special needs. This provision allows applicants discretion in developing the required description. The statute highlights six types of barriers that can impede equitable access or participation: gender, race, national origin, color, disability, or age. Based on local circumstances, you should determine whether these or other barriers may prevent your students, teachers, etc. from such access or participation in, the Federally-funded project or activity. The description in your application of steps to be taken to overcome these barriers need not be lengthy; you may provide a clear and succinct description of how you plan to address those barriers that are applicable to your circumstances. In addition, the information may be provided in a single narrative, or, if appropriate, may be discussed in connection with related topics in the application.

Section 427 is not intended to duplicate the requirements of civil rights statutes, but rather to ensure that, in designing their projects, applicants for Federal funds address equity concerns that may affect the ability of certain potential beneficiaries to fully participate in the project and to achieve to high standards. Consistent with program requirements and its approved application, an applicant may use the Federal funds awarded to it to eliminate barriers it identifies.

What are Examples of How an Applicant Might Satisfy the Requirement of This Provision?

The following examples may help illustrate how an applicant may comply with Section 427.

(1) An applicant that proposes to carry out an adult literacy project serving, among others, adults with limited English proficiency, might describe in its application how it intends to distribute a brochure about the proposed project to such potential participants in their native language.

(2) An applicant that proposes to develop instructional materials for classroom use might describe how it will make the materials available on audio tape or in braille for students who are blind.

(3) An applicant that proposes to carry out a model science program for secondary students and is concerned that girls may be less likely than boys to enroll in the course, might indicate how it intends to conduct "outreach" efforts to girls, to encourage their enrollment.

We recognize that many applicants may already be implementing effective steps to ensure equity of access and participation in their grant programs, and we appreciate your cooperation in responding to the requirements of this provision.

Estimated Burden Statement for GEPA Requirements

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1894-0005**. The time required to complete this information collection is estimated to average 1.5 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. **If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to:** U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202-4537.

Applicants should use this section to address the GEPA provision.

Attachment:
Title : GEPA Section 427 Plan
File : Compliance with Section 427 of the Department of Education.doc

Compliance with Section 427 of the Department of Education's General Education Provision Act

In planning and implementing the WAMPEN initiative, the State Leadership Team will undertake the following steps to ensure equitable access to, and participation in, the rigorous Programs of Study (AM-POS) developed by the project. More specifically, the State Leadership Team (SLT) and Local Partnership Teams (LPTs) will:

a. Document the current enrollment and graduation rates of students in grades 9-16 in the Advanced Manufacturing Pathways based on gender, race, national origin, color, disability and age. This information will be reported in the Baseline Assessment Report and shared with local community stakeholder groups. In schools and colleges were students from these backgrounds are substantially under-represented in the Advanced Manufacturing Pathways, the LPTs will develop and implement local action plans to recruit and retain students from the identified populations. Working closely with student affairs personnel from the local education agencies, the teams will, for example, sponsor weekend workshops and create website resources designed to help individuals from special needs backgrounds build connections with technicians and professionals in the manufacturing sector who confronted similar challenges (i.e., gender, disability, etc) .

b. Provide special access and accommodations for Hmong-American students. Hmong Americans are one group of Asian Americans. Many Lao Hmong war refugees resettled in the U.S. after the communist takeover of Laos in 1975. Starting in December 1975, the first Hmong refugees arrived in the U.S., mainly from refugee camps in Thailand. Through church outreach efforts, many Hmong families settled in California, Minnesota, and Wisconsin (principally in Wausau and Appleton). Each LPT will confer with local Hmong groups early in each project year, groups such as the Wausau Area Hmong Mutual Association, to brief community leaders on the WAMPEN Network goals, priorities and deliverables, and to identify effective strategies for recruiting and retaining Hmong students in Advanced Manufacturing education pathways.

c. All WAMPEN reports and website information resources will be available in Spanish and English, and other native languages that reflect the cultural profile of WAMPEN communities.

SUPPLEMENTAL INFORMATION REQUIRED FOR DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
Dr.	L.	A	Phelps	

Address:

* Street1: 1025 West Johnson

Street2:

* City: Madison

County: Dane

* State: WI* Zip / Postal Code: 53706 * Country: **USA**

* Phone Number (give area code)	Fax Number (give area code)
(608)263-2714	(608)262-3063

Email Address:

LAPHELPS@WISC.EDU

2. Applicant Experience

Novice Applicant [ ] Yes [X] No [ ] Not applicable

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project period?

[X] Yes [ ] No

Are ALL the research activities proposed designated to be exempt from the regulations?

[X] Yes Provide Exemption(s) #: pending -- under IRB review

[ ] No Provide Assurance #, if available:

Please attach an explanation Narrative:

Attachment:
Title : Supplemental Information
File : Supplemental Information.doc

Supplemental Information

The WAMPEN Human Subjects Research protocol is currently under review by the University of Wisconsin - Madison's Education-Institutional Review Board. A decision by the IRB is pending. We expect to receive a determination that our research procedures are exempt from the Human Subjects regulations. Much of the data being used in the Baseline Assessment Report are administrative data contained in the state and local k-16 longitudinal data systems. Only de-identified data will be requested from state agencies, local school districts, and colleges, and used in the analysis.

For the other data that will be collected from educators, students, local business leaders, and other stakeholders, such as surveys regarding the implementation of the Program of Study component practices, written informed consent will be obtained and anonymity guaranteed for respondents.

Project Narrative

ABSTRACT

Attachment 1:
Title: **Abstract** Pages: **3** Uploaded File: **Abstract.pdf**

ABSTRACT

The Wisconsin Advanced Manufacturing Pathway Education Network (WAMPEN)

In Wisconsin, manufacturing matters. According to the Wisconsin Manufacturing Extension Partnership, this sector of our economy:

- Directly employs 1 out of 6 workers in the state.
- Generates $47 billion—21% of our Gross State Product.
- Exports $17 billion of products beyond our borders.
- Continues to rank in the top 5 states as a percentage of state economy.
- Fosters some of the fastest-growing well-paying service jobs which depend on its business.

The constantly changing mix of *essential* manufacturing knowledge and skills needed to succeed in the global economy requires an educational system that is nimble, data-driven and, results oriented. We propose to increase Wisconsin's capacity to address rapidly rising and shifting manufacturing workforce development needs, by designing and implementing the Wisconsin Advanced Manufacturing Pathway (AMP) education initiative. The AMP Leadership Team is committed to implementing an advanced manufacturing pathway program of study (AM-POS) that incorporates the systematic use of longitudinal and integrated data systems by local education and business partners to: (a) document program of study implementation, (b) assess student performance and outcomes, and (c) make strategic improvements in educational practices. Over the next four years, the WAMPEN will achieve the following goals and outcomes to advance Wisconsin's capacity for delivering high-quality, advanced manufacturing education:

1. In Phase 1 (October 2010 through April 2011), the WAMPEN State Leadership and Local Partnership Teams will plan and conduct a comprehensive baseline assessment of AMP-POS student outcomes in the pilot Network sites (one technical college and three high schools). *Deliverable: Baseline Assessment Report*
2. In Phase 2A (February-September 2011) the WAMPEN State Leadership and Local Partnership Teams will co-implement an AM-POS targeted technical assistance/professional learning community strategy for implementing the 10 POS Design Framework components. *Deliverables: TA/PLC plan, Interactive internal website; Monthly webinars; Quarterly on-site SLT-LPT briefings; Two summer institutes*
3. In Phase 2B (April 2011) the WAMPEN Evaluation Team will establish baseline data for measuring the effectiveness of the AM-POS utilization of the 10 POS Design Framework-components during project years 2-4 inclusive. *Deliverable: Year 1 Project Evaluation Report*
4. In Phase 3 (April-July 2011), the WAMPEN State Leadership Team will disseminate pilot year information. *Deliverables: AMP-POS public website; Project presentations at two national conferences and five state conferences or meetings.*

Led by a State Leadership Team (SLT) composed of representatives from the Wisconsin Technical College System (WTCS) State Board, the Wisconsin Department of Public Instruction (DPI) Division of Career and Technical Education, University of Wisconsin-Madison Center on

Education and Work and the Wisconsin Department of Workforce Development, structured technical assistance and ongoing professional development will be provided to local AM-POS partnership teams (hereafter referred to as Local Partnership Teams (LPT). The LPTs will include the lead Advanced Manufacturing instructors and administrators from the secondary and postsecondary education partners, at least one member of the AM-POS industry advisory committee, the local Tech Prep/POS Coordinator, and other key local implementers (e.g., counselors, math and science instructors).

During Year 1 (October 2010-May, 2011) and following consultation with the U.S. Office of Vocational and Adult Education (OVAE), the SLT will develop an evaluation design and assessment tools to document: (a) indicators of students' career and college readiness (e.g., high school technical skills attainment, high school graduation, college admission test scores, full or advanced admission status in postsecondary programs etc.); and (b) student and faculty engagement in the 10 POS Design Framework elements

During March-April 2011, the SLT and an External Evaluation Team will document the status of AM-POS implementation by convening a focus groups and responding to an on-line program implementation checklist compiling detailed information on the 10 POS Design Framework component practices. These practices are identified in the WTCS-WDPI's Local POS Implementation Guide, which is directly aligned with the OVAE's 10 POS Design Framework components. The surveys and focus group will assist the SLT in identifying high priority content for the summer institutes.

During June-July 2011, two intensive summer institute will provide LPTs with professional development and data coaching to: (a) Develop an LPT action plan for improving selected POS Design Framework components to strengthen local teaching, student learning, course articulation, guidance and advising, and/or assessment practices in 2011-12; (b) Use data analyses and summaries to inform students, parents, policymakers, employers, local media, and other stakeholders about the value-added AM-POS outcomes (e.g., increases in the number of graduates entering local advanced manufacturing careers, improvements in college and career readiness of high school graduates, etc.); and (c) compile a comprehensive formative evaluation of the AM-POS goals, outcomes, and processes used in Year 1.

In July and August 2011, baseline data on outcomes for current AM-POS students and recent graduates from high schools and postsecondary programs will be extracted from the Wisconsin Department of Public Instruction Longitudinal Data System and the Wisconsin Technical College Client Record System. The data will be analyzed to provide each of the four LPT teams with a profile of recent student progress and success (e.g., course completion and POS retention patterns, graduation rates, state and academic assessment scores, employer and graduate satisfaction data from the most recent WTCS 5-year follow-up surveys, and student/graduate characteristics--family income status, ELL status, etc.).

The SLT will use the formative and third-party evaluation data to broaden WAMPEN implementation in Years 2-4. Contingent upon funding, WAMPEN will assist 3-5 LPTs in expanding their capacity to improving student outcomes in AM-POS leading to high-wage, high-skill manufacturing careers in urban, suburban, and rural settings. Additional local AM-POS

local teams will be recruited for Years 2-4 and Phases 1-3 repeated with these additional WAMPEN local partnerships.

Each LPT will be supported with a sub-grant to cover the added costs for professional development, travel, and data extraction.

Finally, to reinforce stakeholder commitment to and buy-in for the WAMPEN in local communities, the SLT will jointly conduct two half-day briefings annually with the LPTs. Attended by academic deans, department chairs, program leaders, local policy makers, and other key instructional and support staff from the college and high schools, these briefings will feature updates on state-level and local WAMPEN goals, activities, and accomplishments. Additionally, the briefings will enable the SLT to customize the local AM-POS implementation based on particular education improvement and workforce development priorities.

Project Narrative

ELIGIBILITY

Attachment 1:
Title: **Eligible Applicants** Pages: **1** Uploaded File: **Eligible Applicants.pdf**

The Wisconsin Technical College System Board (WTCS) is the sole State agency responsible for the administration of Career and Technical Education in Wisconsin. WTCS is the eligible recipient for Carl Perkins IV grant, and works collaboratively with the Wisconsin Department of Instruction (DPI) and the University of Wisconsin System Administration in meeting the requirements of the Carl Perkins grant.

Project Narrative

COMPETITIVE PREFERENCE PRIORITY

Attachment 1:
Title: **Competitive Preference Priority** Pages: **1** Uploaded File: **COMPETITIVE PREFERENCE PRIORITY.doc**

COMPETITIVE PREFERENCE PRIORITY

This State of Wisconsin application from the Wisconsin Technical College System addresses the Promoting Rigorous Programs of Study competitive preference priority--**Commitment to the Project.**

By establishing the Wisconsin Advanced Manufacturing Pathway Education Network (WAMPEN) -- and documenting its implementation practices and the resulting career and college readiness outcomes -- this project addresses the Competitive Preference Priority. WAMPEN leverages a substantial, continuing funding commitment from the State of Wisconsin and University of Wisconsin to prepare the state's Next Generation Manufacturing workforce.

In the Budget Justification section, the Non-Federal contributions to the project meet or exceed a 30% share of the total project costs. Each of major partners (WTCS, WDPI and CEW) are providing a share of the non-federal costs of the project, since the leaders of both state agencies and the Center on Education and Work view the project as having significant, long-term benefits to the State of Wisconsin. Several key project staff from the state education agencies will be contributing 10-15% of their time from lead state-wide CTE consultation and technical assistance responsibilities.

Project Narrative

SELECTION CRITERIA

Attachment 1:
Title: **Application Narrative** Pages: **50** Uploaded File: **Application Narrative.pdf**

Application Narrative

(a) State capacity to implement a rigorous program of study

(1) Build on existing State initiatives and partnerships in implementing proposed project.

By establishing the Wisconsin Advanced Manufacturing Pathway Education Network (WAMPEN) -- and documenting its implementation practices and the resulting career and college readiness outcomes -- this project addresses the Competitive Preference Priority. WAMPEN leverages a substantial, continuing funding commitment from the State of Wisconsin and University of Wisconsin to prepare the state's Next Generation Manufacturing workforce.

In 2008, Wisconsin embarked on the Wisconsin Industry Partnerships initiative as part of a policy academy sponsored by the National Governors Association. This initiative brought together leaders from Wisconsin's K-12 schools, technical colleges, public and private universities, labor unions, workforce and economic development boards, businesses and state agencies, to build an education and training system *responsive to and driven by the needs of workers and employers*. The policy academy focused on: strategic actions plans that aligned policies and resources across workforce development; economic development and education to create customized regional solutions to address the skill recruitment and retention needs of key industry; and the training employment and career advancement needs of workers. Through participation in the year long academy, Wisconsin built a foundation to achieve a coordinated state system. This foundation rests upon the following three principles: (1) Grow Wisconsin's Regional Economies; (2) Grow Workers' Skills; and (3) Grow System Accountability.

By embracing these foundational principles, the state is positioned to develop and implement an Advanced Manufacturing Program of Study (AM-POS) as a direct result of the on-going analysis of economic and workforce trends in regions throughout our state. Further, the

Perkins-supported career clusters/pathways initiative and the development of Programs of Study (POSs) are recognized as a key to our state's commitment to a comprehensive approach to career pathways. Our principles and state capacity are enhanced by several recent initiatives: (1) State Superintendent adopted comprehensive school counseling model with emphasis on career development and individual learning plans, and encouraged local districts to build strong connections with local employers; (2) State investments in development of a new Local POS Implementation Guide, STEM Education grants for school districts and POS, and new website to track the development of POSs (see: http://www.wicareerpathways.org); (3) Focus on adult workers in Advanced Manufacturing (See http://www.risepartnership.org); and, (4) Provide regions with multiple funding sources that are available to leverage existing and future funding sources (See Attachment A - Wisconsin's Workforce Development System).

Wisconsin also has a long history of employer engagement in technical college program development and implementation. Each college has active program advisory councils to review program performance and recommend course and program modifications or discontinuance. Technical college district and state board membership requirements ensure that a broad range of interests including those of employers, employees, educational leaders, workforce development leaders, and other interested members of the public are represented at both the local and state level in setting educational policy and determining career and technical educational offerings at the postsecondary level. Further information on the collaborative input by business and industry in the WTCS Program Approval process is described below. Furthermore, the technical preparation councils (s. 118.34, Wis. Stats.) operate in each of the 16 technical college districts under the direction of the local Tech Prep Coordinator and co-chaired by either a secondary partner or business and industry. The councils usually consist of both secondary and post-

secondary core and CTE educators, administration personnel, representatives from the CESAs, workforce development boards, and representatives from business and industry. The councils are key players in the development of the state's Title II Perkins IV Plan.

(2) The POS will provide training leading to high-growth, high-demand, or high-wage occupations.

The Advanced Manufacturing Pathway was selected because it represents an employment sector and cluster of key importance to Wisconsin's economy. This sector of Wisconsin's economy:

- Directly employs 1 out of 6 workers in the state.
- Generates $47 billion—21% of our Gross State Product.
- Exports $17 billion of products beyond the state's borders.
- Continues to rank in the top five states as a percentage of state economy.
- Fosters some of the fastest-growing well-paying service jobs which depend on its business.

Labor market information and economic realities have driven the focus of this proposal on Advanced Manufacturing. Despite the recession, Wisconsin is the most manufacturing intensive state in the county. The high demand, high skill, and high wage nature of Advanced Manufacturing is evidenced by the continuing high enrollments and successful placement of technical college graduates of Advanced Manufacturing programs. Manufacturing has a $23.7 billion annual payroll in Wisconsin, and the average annual manufacturing wage in the state is $48,116, one of the highest of any industry. For more information about the importance of Advanced Manufacturing to Wisconsin's economy see: http://www.wmep.org.

Finally, more than 500 Wisconsin manufacturers participated in the 2008 Next Generation Manufacturing (NGM) Study, a groundbreaking effort led by the Wisconsin Manufacturing Extension Partnership to assess the global competitiveness of state firms. The study revealed the need for improvement in six critical areas. Wisconsin's leadership paved the way for a national study that underscores the urgent need for manufacturers to focus on reaching the world class performance benchmarks of NGM (see Attachment B). One of the critical areas to be addressed in the NGM framework is the development of an Advanced Talent Management strategy, which will include ". . . programs and services to help manufacturers acquire, train, and retain skilled employees . . ." The Wisconsin Advanced Manufacturing Pathway Education Network (WAMPEN) initiative will serve as a key component of the Wisconsin Advanced Talent Management Strategy.

(3) State-developed or State-approved POS that is built and sustained with the 10 Framework components.

WAMPEN will refine and implement an Advanced Manufacturing Program of Study (AM-POS) that is built and sustained with the 10 framework components for a POS as identified by OVAE and incorporated in the forthcoming ***Wisconsin Career Cluster and Pathway Framework Implementation Guide*** as described below in (a)(3)(i)(B).

(i) State and local legislation, rules and regulations, or administrative policies.

(A) The proposed project to develop an AM-POS is a natural outgrowth of Wisconsin's effort to encourage the development of POS in all 16 career clusters as outlined in the State's Five-Year Plan for Perkins IV, in addition to prioritizing the use of its Perkins allocation to develop and implement POS in a variety of career clusters/pathways. Wisconsin has a long history of providing state and local funding and support for a variety of School-to-Careers initiatives that

promote POS. Since July 1985, the state statutes have required all school districts to provide students with "access to an education for employment program that has been approved by the state superintendent" (1985 Wis. Act 29). The Legislature expanded this requirement in 1993 to indicate that each district's education for employment program must incorporate applied curricula; guidance and counseling services; technical preparation; college preparation; youth apprenticeship opportunities or other job training and work experience; and instruction in skills relating to employment (1993 Wis. Act 339). Funding for these efforts comes primarily from state and local appropriations to support public education. Requirements for a school district's Education for Employment plan is described at: http://www.legis.state.wi.us/rsb/code/pi/pi026.pdf.

The state's Tech Prep program established in 1991, requires all high schools to offer a sequence of courses approved by the local Tech Prep Council and designed to allow high school students to gain advanced standing in a technical college associate degree program upon graduation from high school (1991 Wis. Act 39). All high schools must be part of a Tech Prep consortium with technical assistance provided by their local technical college district (s. 118.34, Wis. Stats.). While Perkins IV Tech Prep funds support the work of the Tech Prep councils, implementation at the local level is supported by state and local appropriations.

Created in 1992, the Youth Apprenticeship program provides interested high school students with opportunities to participate in statewide industry-certified curricula tied to on-the-job instruction, training, and employment (s. 106.13, Wis. Stats.). Some state-level funding is provided for business participation in the Youth Apprenticeship program. Participating school districts fund the operation of the program at the local level. These state-mandated Tech Prep, Youth Apprenticeship, and related skill-certified cooperative education experiences all provide

high school students with opportunities for career exploration, preparation, and postsecondary experiences and will help to shape the AM-POS.

(B) The AM-POS will comply with the process outlined in the state's forthcoming ***Wisconsin Career Cluster and Pathway Framework Implementation Guide*** found in Attachment C. Wisconsin is in the process of finalizing development of this written implementation guide for secondary and postsecondary educational professionals. This guide will make existing project work a sustainable, systemic change in schools/districts and post-secondary institutions in Wisconsin. As described in the guide, educational professionals at both levels must collaborate and leverage the state's resources to realize long-term, sustainable gains through the design, implementation, and continuous improvement of POS.

Continuous improvement of POS is a key part of the design and implementation process described in the guide. It is supported through a variety of reporting requirements for the state's School-to-Careers programs. The state collects student level data for each of the Perkins Tech Prep indicators. In addition, the state requires local reports on courses and participants in School-to-Career programs (see http://www.legis.state.wi.us/rsb/code/tcs/tcs009.pdf).

(C) The AM-POS will adhere to policies that ensure opportunities for any interested secondary student to participate in a POS. The AM-POS will be piloted in rural, suburban, and urban public high schools in the Northcentral Technical College (NTC) district. Under the state's Education for Employment standard (s. 121.02(m), Wis. Stats.), each of these school districts must offer students the opportunities to enroll in career and technical education courses as part of their high school program. Participation in a particular POS at the local level is available to any high school student who has completed any needed prerequisites and foundational classes as part of their overall high school coursework. Most postsecondary coursework included in a POS typically

would be available to a high school student through a formal articulation agreement between their local school district and technical college.

State statutes provide that high school students may also earn postsecondary credit through enrollment in a Wisconsin technical college or a Wisconsin institution of higher education under Wisconsin's Youth Options program for students seeking to participate in a POS where the appropriate postsecondary coursework for a POS is not offered through their high school district. This program permits 10th and 11th grade students in good standing to access postsecondary courses including career and technical education courses and earn credit toward completion of a high school diploma and a postsecondary program simultaneously (s. 118.55, Wis. Stats.). This program permits any student to attend a technical college or other institution of higher education in the state free of charge if their course of study is not comparable to a course offered in the school district (see http://dpi.wi.gov/youthoptions).

(D) The AM-POS will incorporate individual graduation or career plans for participating students as described in the state's forthcoming Implementation Guide. As described above in (a)(3)(i)(A), school districts must provide students with access to an education for employment program and that incorporates guidance and counseling services, and postsecondary planning, and developmentally appropriate educational, vocational, career, personal, and social information to assist pupils in problem solving and in making decisions (see http://www.legis.state.wi.us/rsb/code/pi/pi008.pdf).

(ii)Ongoing relationships among education, business, and other community stakeholders.

(A) The AM-POS will foster ongoing relationships using written memoranda that specify the roles and responsibilities of partnership members. See section (a)(1) for an in-depth description

of the on-going relationships among education, business and community stakeholders that are in place to support the AM-POS.

As part of each school district's Education for Employment plan, business and industry partners participate in the district's Employer Council. In addition, each technical college program has an industry advisory committee that meets at least annually to review career and technical program performance data including enrollment, course completion, and graduation data, and to effectively recommend changes as part of a process of continuous postsecondary program improvement. These community stakeholders, along with staff and teachers from the local school districts, technical college, and interested university partners, review and comment on the use and form of individual graduation or career plans. As the new state guide indicates, written memoranda are key to helping all partners understand their roles in POS development and implementation.

(B) The AM-POS will foster ongoing relationships by conducting analyses of economic and workforce trends to identify POS that should be created, expanded, or, if appropriate, discontinued. This process of conducting ongoing analyses of economic and workforce trends to identify needed POS changes is familiar to technical college personnel who use the process as part of the WTCS Program Approval process (see http://systemattic.wtcsystem.edu/Instruction/ESM/default.htm). The state's implementation guide extends this process to joint secondary and postsecondary POS development.

(C) The AM-POS will foster ongoing relationships by linking POS development to existing initiatives that promote workforce and economic development such as GROW Wisconsin. As noted in (a)(1) above, development and implementation of the AM-POS is a direct response to the documented workforce and economic development priorities in the advanced manufacturing

sector. The state's seven GROW regions have received convening and training grants to develop and strengthen local business, education, and community partnerships to strengthen the connections between schooling and the state's economic development priorities (see Attachment D –Industrial Partnership Grants by Grow Regions).

(D) The AM-POS will foster ongoing relationships by identifying, validating, and updating technical and workforce readiness skills to be taught within POS. NTC conducts ongoing reviews of the postsecondary education and training needs of its labor market. In addition, the state's industry partnership grants, as mentioned above, are sector-specific (e.g., advanced manufacturing, health care, energy) and are awarded once regions have documented workforce development priorities and are ready to begin developing formal partnerships among educators, trainers, and the employer communities. Regions may use these funds to evaluate current workforce systems, employee skill sets, and regional assets and challenges.

(iii) Sustained, intensive, and focused professional development opportunities.

(A) The AM-POS will provide professional development opportunities that foster POS design, implementation, and maintenance, and that support the alignment of academic and technical curriculum within the POS from grades 9 through 12 and from secondary to postsecondary education. Both the WTCS and DPI Division of Career and Technical Education (CTE) convene a series of meetings each year for deans, program coordinators, and secondary CTE coordinators. Presentations and workshops at these state-wide and regional meetings feature promising practices and leading models for the alignment of academic and technical curricula in POS. The AM-POS project will provide additional funding for professionals within the participating schools to meet and compare implementation strategies.

(B) The AM-POS will provide professional development opportunities that support the development of integrated academic and CTE curriculum and instruction within the POS. Using Perkins State Leadership funds, both the DPI-CTE and WTCS routinely fund projects for the development of integrated academic and CTE curricula. For example, the WTCS is supporting the Manufacturing Skills Standards Certification (MSSC) Champions Project. During 2010-11 educators from five high schools, including three schools in the NTC-AMP Network, and two technical colleges are developing new courses for MSSC, which will provide high school students with integrated curriculum and transcripted credit in the WTCS.

(C) The AM-POS will provide professional development opportunities that ensure that teachers and faculty have the necessary content knowledge to align and integrate curriculum and instruction within the POS. Many Wisconsin school districts offer agricultural science and Project Lead the Way (PLTW) engineering courses. In 2008 these courses were reviewed and designated by both the DPI and the University of Wisconsin (UW) System as carrying high school science equivalents. All UW institutions accept these courses as part of the three high school units of science required for admission to UW institutions (see http://dpi.wi.gov/te/pdf/UWSystemApprovalLetter.pdf). With math, science, and CTE teachers teaching these courses using nationally-aligned and integrated curricula, Wisconsin has a powerful strategy for offering integrated instruction in several of the popular POS pathways.

(D) The AM-POS will provide professional development opportunities that foster innovative teaching and learning strategies within the POS. More than 120 Wisconsin high schools (28%) are currently offering PLTW and Biomedical Sciences curriculum, both grounded in a problem- and project-based approach to teaching and learning. The multi-dimensional, real-world-connected teaching, learning, and assessment practices featured in the PLTW curriculum will

serve as models for developing new AM-POS curricula and instructional practices. Two high schools within our lead LPT (Wausau East and West) have been implementing PLTW courses for the past five years. Details about the impact of the PLTW-Engineering teaching and learning approach on increasing student engagement and mathematics scores can be found at: http://pltwwi.org/pdfs/Abstract%20-%20Center%20on%20Education%20and%20Work%20%28CEW%29.pdf

(E) The AM-POS will provide professional development opportunities on the use of assessment data for POS program and instructional improvement. Similar to other states, Wisconsin has committed to implementing the Common Core State Standards. Additionally, Wisconsin is a governing state within the 31-state SMARTER Balanced Assessment Consortium (SBAC), formed in response to the Race to the Top assessment grant competition to develop innovative assessment systems aligned to the Common Core State Standards (see http://www.corestandards.org/). At the core of the SBAC assessment system is the deep involvement of educators in the development of formative strategies, test items, scoring rubrics, and the evaluation of performance events. By participating in the design and creation of professional development, the curriculum-instruction-assessment connection will become more explicit and intentional, and educators across consortium states will have the opportunity to enhance their assessment literacy and improve instruction.

Until 2014-15, DPI will continue to administer the federally approved accountability tests (WKCE-WAA). By linking student unit record data from high schools and postsecondary institutions in the AM-POS, we will be able to provide administrators, teachers, and faculty members with readily accessible and searchable program evaluation data bases. The data base and report we created for the Appleton School District for one of their Engineering Programs of

Study is an example of the reports we envision producing for the AM-POS. (See http://www.cew.wisc.edu/docs/resource_collections/CEW_PLTWresults_Appleton_UWMadison2.pdf).

(iv) Accountability and evaluation systems and strategies

(A) The AM-POS development and implementation will be included in accountability and evaluation systems. These system-embedded strategies will gather quantitative and qualitative data on all 10 Framework components as well as on student outcomes to inform ongoing efforts to develop and implement POS and to determine their effectiveness. Moreover, the strategies will yield valid and reliable data on key student outcomes (indicators of performance) referenced in Perkins and other relevant Federal and State legislation. As indicated in the Evaluation section, the WAMPEN State Leadership Team will develop and pilot test a data program for extracting student data from the DPI-LDS and WTC-CRS that inform the seven performance measures required in Sections 113(b) and 203(e) of the Act (Perkins, 2006).[1] The fully developed program for extracting student data from the two data systems will be used to inform Evaluation Goal #3 by annually producing performance measurement data for three student cohorts: (a) AM-POS participants in each of the three participating high schools; (b) AM-POS participants at the technical college; and (3) a control group of AMP students from other high schools who have ***not*** had the benefit of participating in an AM-POS aligned with the 10 POS Design Framework components. On-line survey data will be collected from students, instructors, and guidance staff to describe the degree and quality of implementation of the 10 POS component practices annually in the participating LPT high schools and technical colleges.

[1] The seven performance indicators are: (1) Secondary school completion; (2) Technical skills attainment; (3) Earned postsecondary credit during high school; (4) Enrollment in postsecondary education; (5) Enrollment in postsecondary education in a field or major related to the secondary school POS; (6) Need for developmental course work in postsecondary and (7) Postsecondary credential, certificate, or diploma attainment.

(B) The AM-POS development and implementation will include strategies that provide timely data to inform ongoing efforts to develop, implement, evaluate, and improve the effectiveness of POS. As part of the proposed project, WAMPEN will complete the baseline and subsequent annual AM-POS reports for each high school and technical college in March-April, 2011 and annually thereafter. These reports, along with customized data probes and analyses, will be used to design and deliver targeted web-casts, data retreats, and summer institutes to members of the AM-POS Local Partnership Team (LPT). The LPT will analyze the data to evaluate the POS component practices and make appropriate and timely changes for the upcoming academic year. Over the four year project, we envision designing a data analysis network capability modeled after the California Partnership for Student Success (Cal-Pass). See: http://www.cal-pass.org/default.aspx

(v) POS content standards.

(A) The AM-POS will include content standards that define what students are expected to know and be able to do to enter and advance in college, careers, or both, that include aligned academic and technical content, and that are developed and continually validated in collaboration with secondary, postsecondary, and industry partners. The Common Core State Standards, along the Manufacturing skill standards endorsed by the National Association of Manufacturers, will provide the content validation frameworks for the AM-POS. Through the WTCS's industry program advisory committees on each campus, members of the LPT will confirm annually the math, science, and manufacturing competencies required in local manufacturing workplaces.

(B) The AM-POS will include content standards that incorporate essential knowledge and skills that students must master regardless of their chosen career area or POS. State education standards for students enrolled in the AM-POS are no different than the standards that all high

school students must meet. All students must meet the state's model academic standards. Additionally, Wisconsin has been participating in projects such as Skills for the 21st Century, the American Diploma, and the Common Core Standards initiative. As a result, the state has been developing new, nationally recognized model academic standards.

On the postsecondary side, WTCS program approval standards for associate degrees and technical diplomas require the inclusion of core abilities. The core abilities reflect the competency needed by graduates to apply general education constructs in work settings and everyday life. .

(C) The AM-POS content standards will provide the same rigorous knowledge and skills in reading or language arts and mathematics that employers and colleges expect of high school graduates. Secondary POS students will be enrolled in local reading, language arts and mathematics courses that are aligned with the state's model academic standards. By 2015, Wisconsin's balanced assessment system will measure the extent to which all Wisconsin children have achieved proficiency in the core standards, which estimate the level of college and career readiness graduates have attained. See the description in (a)(3)(v)(a)&(b) above and the link to America Diploma Project endorsement of Wisconsin's new model standards in English Language Arts and Mathematics: http://dpi.wi.gov/eis/pdf/dpi2009_64.pdf.

(D) The AM- POS content standards are, to the extent possible, internationally benchmarked so that students are prepared to succeed in a global economy. In the development of the Common Core State Standards, the Council of Chief State School Officers and their national partners used international benchmarks to ensure that U.S. graduates will meet proficiency standards for workplaces participating in the global economy. See links at http://dpi.wi.gov/eis/pdf/dpi2009_59.pdf.

(vi) Course sequences help students transition.

(A) The AM-POS will identify course sequences within a POS that help students transition to postsecondary education without the need to duplicate classes or enroll in remedial courses, as evidenced by course sequence plans that map out recommended academic and career and technical courses for the POS. Further, as noted below in (a)(3)(viii)(B), schools must format their POS using a common template that lays out the recommended academic, career and technical courses that are included in the POS. The State's Career Cluster Initiative course sequence template enables partner institutions to specify the academic and technical courses by grade level (grades 9-16) that students should complete for any of the 79 pathways. See Attachment E, a state-approved course sequence plan for the Manufacturing Production Process Development Pathway at Wausau East and West High Schools.

(B) The AM-POS will identify course sequence plans that begin with introductory courses that provide broad foundational knowledge and skills common across all POSs and then progress to more occupationally specific courses that provide the knowledge and skills required for entry into and advancement in the selected POS by using the state's POS template. As noted in the Manufacturing course sequence template (Attachment E), the 9th and 10th grade CTE courses (e.g., Introduction to CAD) build core knowledge for manufacturing careers before introducing students to occupationally specific courses in grades 11 and 12 (e.g., Computer Integrated Manufacturing). **(C)** The AM-POS will identify opportunities for students to earn postsecondary credit for coursework taken during high school. Since 1991, high school and technical college staff have worked together to create formal articulation agreements that limit unnecessary duplication of coursework. This articulation process results in a written agreement recorded in the state's articulation database between the school district and a postsecondary institution that

may allow a student to receive high school or postsecondary credit, or both, for a course or a sequence of courses taken at a high school or postsecondary institution. Links to the state's articulation database are available on the WTCS website at http://systemattic.wtcsystem.edu/reports/STW/articulation_agreements.htm.

Originally, most articulation agreements in Wisconsin provided students with advanced standing at technical colleges. In more recent years, however, most of the articulation agreements have provided students with transcripted credit. Under these agreements, course completion results in the awarding of postsecondary credit and grades reported directly on a technical college transcript. The AM-POS will build on the existing structure of articulation agreements between NTC and the local high schools that offer students transcripted credit for the postsecondary coursework completed while still enrolled in high school.

(vii) Formal credit transfer

(A) The AM-POS will provide a systematic, seamless process for students to earn college credit for postsecondary courses taken in high school, transfer high school credit to any two- or four-year institution in the State that offers the POS, and transfer credit earned at a two-year college to any other two- or four-year institution in the State that offers the POS. The state has experienced an ongoing shift from the development of articulation agreements that provided students with advanced standing to agreements that awarded students transcripted credit. In 2000, for example, 26% of the students in School-to-Careers initiatives receiving transcripted credit with the WTCS; in 2009, that number had risen to 52% receiving transcripted credit.

Like any other college transcript, an individual student may request that their technical college transcript be shared with any other institution of higher education as part of a credit transfer process. The WTCS Board's Policy #323 on Credit for Prior Learning ensures that

credits earned at any technical college in the state will be applied towards completion of a postsecondary education program to the maximum extent possible.

Awarding technical college transcripted credit for postsecondary coursework completed while in high school also permits students to seamlessly gain recognition for this postsecondary work at other post secondary institutions when they evaluate students' technical college transcripts. Of particular relevance to students enrolling in an AM-POS, several UW System institutions, including UW-Stout and UW-Platteville, have developed laddering programs that accept technical college associate degree graduates as juniors into their related four-year industrial management and engineering programs.

Seamlessness of transfer is further promoted by the availability of the Wisconsin Transfer Information System (TIS). TIS offers UW System and Wisconsin Technical College System (WTCS) students the ability to see how their credits will transfer to any UW or WTCS campus. See: http://tis.uwsa.edu/index.html.

(B) The AM-POS will ensure that postsecondary credit is recorded on the high school transcript at the time the credit is earned. Per state regulations, for postsecondary coursework undertaken as part of the AM-POS while in high school, the school district must indicate on a pupil's high school transcript the name of the course; the high school credits earned; and whether those credits were earned through advanced standing, transcripted credit, or the advanced placement program; and the participating postsecondary institution.

(C) The AM-POS will describe:

Expectations and requirements for teacher and faculty qualifications. Secondary school teachers must meet Wisconsin DPI licensure requirements in the subject areas in which they teach (Ch. PI 34, Wis. Admin. Code). Each high school teacher and other educational

personnel involved in the AM-POS must holds the appropriate teacher licensure for the courses they will teach as part of the AM-POS. The AM-POS courses eligible for transcripted credit at a participating Wisconsin technical college must be taught by a WTCS certified technical college instructor or a high school instructor who holds a current DPI license in a related area and has been granted WTCS articulation certification under Chapter TCS 3.03(9)(b), Wis. Admin. Code. See Attachment F for WTCS instructor requirements.

Course prerequisites. The complete AM-POS will identify any academic course prerequisites as part of the development and refinement of the POS. It will also describe the sequence of secondary and postsecondary foundational academic and career and technical education courses that would serve as prerequisites for entry into the aligned postsecondary programs in the Manufacturing Cluster.

Postsecondary entry requirements. As open enrollment institutions, Wisconsin's technical colleges impose no entry requirements on students sixteen years or older seeking to enroll. All Wisconsin technical colleges require incoming students to take academic placement tests to ensure that students in need of remediation are advised appropriately. There are no prerequisites for technical college programs in the Manufacturing cluster.

Locations of courses. Through its network of 16 technical colleges with more than 50 campuses and extensive distance education program, Wisconsin provides all citizens 16 and older high levels of access to career and technical education in all 16 career clusters including 191 programs in the Manufacturing and 87 in Science, Technology, Engineering and Math Cluster. For the proposed AM-POS project, we anticipate that the aligned career and technical education courses will be offered at the three local high schools in conjunction with NTC.

Tuition reimbursement. High school students enrolled in articulated courses through their high school are not charged tuition by the technical college granting the postsecondary credit. The costs of instruction in these courses is borne by the local school district

Credit transfer process. The credit transfer process for transcripted credit to be awarded by the AM-POS is described above in (a)(3)(vii)(A)&(B).

(viii) Career counseling and academic advisory services

(A) The AM-POS will ensure that career counseling and academic advisory services are available to help students make informed decisions about which POS to pursue, while adhering to the State or local guidance and counseling standards, as described above in (a)(3)(i)(A) above. The LEAs participating in WAMPEN use the state's ***WISCareers*** program as part of their comprehensive counseling and guidance program. ***WISCareers*** isWisconsin's career exploration and planning system, rooted in the national career development guidelines (See Attachment G). Detailed information on the use of ***WISCareers*** by students and professionals in the Local Partnership Team (LPT) and colleges is described the Local Implementation Plan section.

(B) The AM-POS will ensure that guidance counselors and academic advisors have access to up-to-date information about POS offerings to aid students in their decision making. ***WISCareers*** contains basic information on career clusters and pathways. In addition, at the state level, DPI has created a new website where POS created by high school and postsecondary partners can be posted as part of their Perkins IV effort. By having schools enter the information in the national POS template as new POSs are created, the website can provide consistent information about POS available to all guidance counselors and academic advisors in an on-line format. Access to the site is available at http://www.wicareerpathways.org/.

(C) The AM-POS will incorporate career counseling and academic advisory services that offer information and tools to help students learn about postsecondary education and career options, including the prerequisites for particular POS. As they develop new POS, schools will use the POS template to identify the appropriate academic and foundational coursework and experiences that would form the prerequisites for participation in any POS including the AM-POS.

(D) The AM-POS will incorporate career counseling and academic advisory services that provide resources for students to identify career interests and aptitudes and select an appropriate POS. ***WISCareers*** includes basic information on career clusters and pathways as well as modules for identifying career interests and aptitudes. In addition to the on-line and print material available from ***WISCareers***, career guidance programs through each high school's Education for Employment activities can help students identify career interests and aptitudes. Finally, the state's technical colleges offer hands-on experiences in their career and technical program labs for middle school and high school students as part of the colleges' outreach efforts.

(E) The AM-POS will incorporate career counseling and academic advisory services that provide information and resources for parents, including workshops on college and financial aid applications, to help their children prepare for college and careers. In addition to the career guidance information available through ***WISCareers*** as described above in (a)(3)(viii)(A) and workshops offered by each high school guidance program, ***KnowHow2GoWisconsin*** is the state's free portal to provide information and resources for students and parents on what they need to know and do to turn college aspirations into college attendance. Information on the site includes links to concrete steps taken to prepare for college as well as links to college and financial applications. The website also offers comprehensive free test prep courses for SAT, ACT, and GRE. The test prep features are easy-to-use tutorials, interactive practice sessions that

dynamically adapt to each student's ability level. The portal can be accessed at http://www.knowhow2gowisconsin.org/.

(F) The AM-POS will incorporate career counseling and academic advisory services that provide Web-based resources and tools for obtaining student financial assistance through ***WISCareers***, ***KnowHow2GoWisconsin***, and the websites for the state's two postsecondary systems and private college association.

(ix) Innovative and creative instructional approaches.

(A) The proposed AM-POS will utilize interdisciplinary teaching teams of academic and career and technical secondary teachers or postsecondary faculty. As noted above, many Wisconsin high schools are offering agri-science and engineering courses that are recognized by the DPI and the UW System as meeting one or more of the high school science requirements for college admission. Increasingly, science, math, and CTE instructors work in interdisciplinary teaching teams to deliver these courses.

(B) The AM-POS will utilize contextualized work-based, project-based, and problem-based learning approaches. The multi-dimensional real-world-connected teaching, learning, and assessment practices featured in the Agri-Science and PLTW instructional approaches described above serve as models for developing new AM-POS. The AM-POS will build on current PLTW efforts at two high schools within our lead LPT (Wausau East and West). In Year 1 we will use these programs and instructors as benchmarks in instructional planning and delivery.

(C) The AM-POS will utilize teaching strategies that foster team-building, critical thinking, problem-solving, and communication skills. Within the 120 high schools offering the PLTW Engineering program, nearly a thousand 11th or 12th grade students were enrolled in Engineering Design and Development (EDD) last year. The national PLTW organization describes EDD as

> ". . . an engineering research course in which students will work in teams to research, design, test, and construct a solution to an open-ended engineering problem. The product development lifecycle and a design process are used to guide and help the team to reach a solution to the problem. The team presents and defends their solution to a panel of outside reviewers at the conclusion of the course. The EDD course allows students to apply all the skills and knowledge learned in previous PLTW courses. The use of 3D design software helps students design solutions to the problem their team has chosen. This course also engages students in time management and teamwork skills, a valuable asset to students in the future."

The SLT and LPT will benchmark the teaching and learning outcomes associated with the PLTW-EDD course to identify promising practices for a similar course(s) in the AM-POS

(x) Valid and reliable technical skills assessments.

(A) The AM-POS will utilize existing valid and reliable technical skills assessments. These include third-party assessments recognized by industry and technical skills assessments developed or approved by the State that are based on industry standards. The WTCS provides guidelines for three levels of technical skills assessment: External Assessment Standards, WTCS Assessment Standards, and Indirect/Local Assessment Standards. External assessment standards are those that are adopted and approved by related industries, such as the National Association of Manufacturing. Indirect/local assessment standards are those standards that are locally adopted by technical colleges, high schools or districts that measure things like GPA and course completion but don’t specifically measure skill attainment. WTCS assessment standards measure course completion, outcomes, and course-level competencies using valid, reliable and field-specific assessments. Any postsecondary programs currently at the Indirect/Local Assessment

Standard level will be transitioning to WTCS Assessment Standards by 2012/13. Additionally, local high school programs, including Specific Production Academics for Regional Knowledge (SPARK), use nationally recognized Work Keys Assessments prior to students choosing a specific POS. The NTC and Spencer High School local partnership assessment practices will be documented and assessed during Year One. For more details on the SPARK career pathway and assessment practices see: http://sparkintomanufacturing.com/pdf/Careerpathway.pdf.

(B) The AM-POS will utilize existing valid and reliable technical skills assessments that measure student attainment of technical skill proficiencies at multiple points during a POS. DWD and WTCS have established a regional network of technical colleges and workforce development centers offering the Manufacturing Skills Standard Certification (MSSC). The MSSC standards and assessments are based on national industry performance standards and recognized by the NAM and the U.S. Department of Labor. To receive a Certified Production Technician credential, individuals must pass valid and reliable technical skills assessments in the following areas: safety, quality practices and measurement, manufacturing processes and production, and maintenance awareness. Details on the MSSC system for Wisconsin can be found at: http://mssc.wi.gov/default.htm.

The AM-POS design framework will be aligned with competencies and skills reflected in the MSSC system, which will enable students to complete the MSSC assessments once they have completed specific courses and/or learning experiences in the WAMPEN program of study. The use of other nationally popular and valid technical skill assessments will be considered and evaluated by the WAMPEN State Leadership Team. The additional, externally administered assessments currently used in some AM-POS include the ACT Work Keys and the PLTW end-

of-course assessments for Principles of Engineering, Digital Electronics, Construction and Architectural Engineering, and other technical-intensive courses.

(C) The AM-POS will utilize existing valid and reliable technical skills assessments that incorporate, to the greatest extent possible, performance-based assessment items through which students must demonstrate the application of their knowledge and skills. Several of the technical skill assessments described above in (a)(3)(x)(A) and (B) include performance-based assessment items including PLTW, SPARK, and MSSC through participation in hands-on learning labs as well as formal end of course assessments.

(D) The AM-POS will utilize existing valid and reliable technical skills assessments that result in the awarding of secondary credit, postsecondary credit, or special designation on a student's high school diploma. As noted above in 3(vii) (A) and (B), successful high school participation in each of the AM-POS courses aligned with the postsecondary portion of the AM-POS will result in the award of both secondary and postsecondary credit will be reflected on the high school transcript.

(b) Capacity of statewide longitudinal data system

The Wisconsin Department of Public Instruction Longitudinal Data System (DPI-LDS) has the current capacity to link and share data among systems housing different types of data. The DPI-WLDS currently contains the elements listed below and the elements are consistent with section 6401(e)(2)(D) of the America COMPETES Act (P.L. 110–69). For most of the elements below, see http://dpi.wi.gov/lbstat/eseamap.html#data

Statewide unique student identifiers. The Wisconsin Student Number (WSN) originates when a student enrolls in a K-12 setting.

Student-level enrollment data. The Wisconsin DPI-LDS has data sets for student-level enrollment, demographic characteristics, special student status, and program participation.

Student-level course completion (transcript) data. The Wisconsin DPI-LDS has student-level course completion transcript data sets and provides detailed information on the points at which students exit, transfer in, drop out, or complete programs at institutions of higher education.

The ability to match student-level secondary and postsecondary data. Wisconsin's DPI-LDS has the capacity to communicate with higher education data systems. The capacity to communicate with higher education systems means that technologies are in place, data definitions are understood, and necessary agreements have been signed. In addition, the Wisconsin DPI-LDS is also linked with The National Student Clearinghouse (NSC) (see http://dpi.wi.gov/lds/pslea.html).

The ability to match student-level data with Unemployment Insurance wage records. Through collaboration between the WTCS Reporting System (WTCS-CRS) and the Wisconsin DPI-LDS, the Wisconsin DPI-LDS has the ability to match secondary student-level data with employment outcome data using Unemployment Insurance (UI) wage records for students and former students. (See Attachments H)

Yearly test records of individual students. The Wisconsin Knowledge and Concepts Examination (WKCE) is administered annually to students in grades 3-8 and 10. All student-level assessment results are stored in the Wisconsin DPI-LDS data warehouse. This data set includes all assessments results from the 2005-06 school years to date (see http://dpi.wi.gov/lds/ldstools.html#MDAT).

Information on students not tested by grade and subject. Data for students not taking the WKCE assessment data are maintained in the Wisconsin DPI-LDS data warehouse along with the assessment scores of students who did participate.

Student-level college readiness test scores. Wisconsin's LDS includes student-level college readiness test scores and related data, such as three years of Advanced Placement course completion and scores, as well as ACT college entrance scores (including students' composite and sub-scores in math, science, English and social studies).

Information regarding transition from secondary school to postsecondary education. Since 2003 the UW System has provided periodic Freshman Success Reports to all Wisconsin high schools that include data for recent three-year cohorts on: UW campus attended, freshman GPA, second year retention, and remediation rates. Work recently completed with the UW System, using the now-available WSN as a key, has enabled Wisconsin to build new student level data sets in the DPI-LDS. These contain data on remedial coursework and enhance the State's ability to track college remedial course work of students using the NSC.

Systems in place in Wisconsin to audit and assess data quality and validity include:

- Progress and summary reports for each student level data collection that enable the reporting LEAs to monitor their data submissions in real time and to adjust discrepancies;
- Edits built into student level data collections that warn school districts of possible data discrepancies and require the LEA to acknowledge the discrepancy before proceeding;
- Editing and validation routines executed against all student level data sets before the data is moved to the WDPI-LDS data warehouse; and
- Routine training opportunities for WDPI staff to learn about federal collection requirements and ways to enhance the validity of data collections.

WAMPEN project staff will work with State data specialists to access the student outcome data needed to meet annual evaluation and reporting requirements for the POS project. As noted above, existing data sharing agreements, high school feedback reports, and newly developed data archive features and analytic tools will enable the State Leadership Team and Local Partnership Teams to significantly strengthen the decisions and planning process by using the Statewide unique student identifiers to: match student-level secondary and postsecondary data; match student-level data with employment outcome data; and compile information regarding the extent to which students transition successfully from secondary school to postsecondary education.

The WAMPEN Evaluation Advisory Committee will meet quarterly to ensure that the interagency elements of the K-16 LDS state-level data system are effectively coordinated and integrated to ensure that each LPT and the SLT has access to high quality, student identifier-based data sets for assessing student learning and progress in the AM-POS. The Evaluation Advisory Committee will include: the state director of secondary CTE, the DPI LDS Project Director, the WTCS Client Reporting System manager, and the WTCS Performance Measurement Consultant. These Evaluation Team members have successfully designed and implemented the WI Perkins IV State Plan and accountability system.

(c) Local implementation plan

(1) LEAs selected for local implementation of the POS

As described in (a), Wisconsin has a twenty year history of supporting school-to-career initiatives that are closely aligned with the POS priority. Local implementation of the rigorous 10-component POS is supported by state policies, initiatives, and resources that are part of the local education process at the secondary and postsecondary level in Wisconsin, including: state

legislation, rules, and administrative policies that promote POS development and implementation; ongoing relationships among education, business, and other community stakeholders that support POS design, implementation, and maintenance; accountability and evaluation systems and strategies that gather quantitative and qualitative data on both POS components and student outcomes and inform ongoing efforts to develop and implement POS, and document their effectiveness; formal credit transfer agreements among secondary schools and postsecondary institutions; and systems that provide career counseling and academic advisory services to help students make informed decisions about which POS to pursue.

The WAMPEN will help Wisconsin identify areas for improvement and expand our capacity to implement rigorous POS for all youth and adults through local demonstration and assessment practices. More specifically, local demonstration and evaluation will build our capacity to: identify best practices for sustained, intensive, and focused professional development opportunities for administrators, teachers, and faculty that foster POS design, implementation, and maintenance; ensure that the AM-POS content standards define what students are expected to know and be able to do to enter and advance in college and careers, and that include aligned academic and technical content; identify course sequences within an AM-POS that help students transition to postsecondary education without needing to duplicate classes or enroll in remedial courses; employ innovative and creative instructional approaches integrating academic and technical instruction and applying academic and technical learning in AM- POS coursework; and incorporate valid and reliable technical skills assessments that document the extent to which students are attaining the necessary knowledge and skills for entry into and advancement in postsecondary education and careers in the AM-POS.

In Years 1 and 2 the State Leadership Team will guide and support the implementation of the AM-POS in the North Central Wisconsin GROW Region Partnership. Northcentral Technical College (NTC), the postsecondary partner, and the three local school districts identified as project participants (Wausau, DC Everest, and Spencer) have a history of working together on elements of the 10-component framework.

Each of the local high schools involved in creating the AM-POS are already familiar with the articulation process for transcripted dual credit. NTC has articulation agreements with Wausau (18), DC Everest (6), and Spencer (9) (all associated with aforementioned SPARK). Additionally, the NTC is participating in a project with two of the school districts (Wausau and DC Everest) to infuse national MSSC safety and quality modules into the high school CTE programs. This project will ensure that the educational experiences provided by MSSC curriculum modules are fully articulated with the WTCS-NTC manufacturing articulation agreements cited above, and the Wisconsin Manufacturing Skill Standards Certification (see http://mssc.wi.gov/default.htm).

As noted in Attachment I, we forecast that 284 high school students and 338 NTC students will be enrolled in the AM-POS during Year 1 and 2 based on the 2009-10 enrollment pattern. In Years 3 and 4, we will recruit and add 2-4 regional AM-POS Local Partnerships to the WAMPEN Network. We will select regions with a diverse set of rural, suburban, and urban communities, which also support a substantial manufacturing sector.

(2) LEAs represent urban, suburban, and rural communities

Northcentral Technical College (NTC) is a two-year technical college in with its main campus in Wausau, Wisconsin with postsecondary headcount enrollment of about 6,700 in 2008-09. The NTC district includes all or portions of Marathon, Lincoln, Taylor, Price, Langlade,

Menominee, Clark, Portage, Shawano and Waupaca counties with an estimated district population of 235,667. NTC is accredited by the Higher learning Commission of NCA (See http://www.ntc.edu/).

The three participating LEAs are all in the NTC district. They meet the federal urban, suburban and rural school district definitions:

- **Wausau**—urban K-12 school district serving primarily the city of Wausau (pop. 38,426) and with two participating high schools, Wausau East and Wausau West with a total high school enrollment of 2,693 in 2009-10. Wausau is the urban core of one of the state's 13 metro areas (See http://www.wausau.k12.wi.us/)
- **D. C. Everest Area**—suburban school district with a single high school in Weston with a total high school enrollment of 1,831. The district serves students from various portions of Marathon County to the southeast of Wausau with a combined population of about 31, 536 (See http://www.dce.k12.wi.us/srhigh/
- **Spencer**—rural school district with a single high school located in the village of Spencer (pop. 1,932) in rural Marathon County with a total high school enrollment of 197. Spencer is located on the western edge of the NTC district, nearly 50 miles southwest of Wausau. (See http://www.spencer.k12.wi.us/default.aspx).

(3) Letter of commitment from each LEA

Attachment J is a jointly signed Letter of Intent describing the partners understanding of the WAMPEN-LPT commitments, obligations, and expectations. See Attachment K for additional letters of support.

(4) Specific actions to strengthen or create a full POS

Once the WAMPEN-SLT's baseline assessment of the 10 framework components and student learning outcomes is completed in March-April, 2011, the SLT will meet jointly with the LPT to design a series of targeted technical assistance and professional learning community events. A comprehensive, password-protected Professional Learning Community (PLC) website will be created and used by SLT and LPT members to upload, access, and analyze RPOS-relevant information. The website will include: recent research and evaluation reports (from the NRCCTE, OVAE, National Association of CTE State Directors, the CCRC at Teacher's College, etc.), the State POS Implementation Guide and its toolkit, and other information resources and data sets germane to the AM-POS. As described below, several events and this suite of technical assistance resources will enable members of the LPT to strategically improve key POS practices in their high school and technical college, and, in turn, improve student learning and transition outcomes in the AM-POS.

(5) Plan to provide ongoing oversight and technical assistance

Local LPT members from NTC and each school will regularly attend webinars and bimonthly professional development activities. In addition, they will participate in planning baseline implementation assessments during the first three months of the project. Once compiled, the LPT will use the data from these assessments to create SMART goals and action plans for improving or strengthening 5-7 POS components in their school or technical college setting. LPTs will also participate in two 4-day WAMPEN Summer Institutes (June and early August), which will gather all participants, local business partners, and technical college faculty to engage in detailed data analysis and reflection, consult with external experts, and prepare site-specific AM-POS program improvement plans with target performance outcomes.

(6) An applicant in a State that has a single LEA

This section is not applicable as the WAMEP has identified and secured agreement to participate in the project as noted above in (C)(2) and (3).

(d) <u>Project management</u>

(1) The management plan incorporates and identifies specific and measurable objectives and tasks to be undertaken to accomplish each project activity.

Detailed project management plans for each of the four major, measurable project objectives are located in Attachment K. For each objective, several project tasks are identified. The elaborated information for each task includes personnel responsible, deliverables or outcomes, and timelines for initiation and completion. Each September, the External Evaluation Committee will review the performance of the State Leadership Team (SLT), the annual summary of accomplishments and deliverables, and provide a summary audit memo addressed to the Principal Investigator, the SLT, and the OVAE Project Officer.

(2) The management plan assigns responsibility for the accomplishment of project tasks to specific partners or project personnel and provides timelines that will result in the timely completion of all required project activities within each phase of the project.

The State Leadership Team (SLT) includes an Operations Group and an Evaluation Group, each responsible for discrete project activities and deliverables. The SLT-Operations Team will manage the project to ensure high-level collaboration among state agencies, including the Department of Workforce Development (DWD), in planning and implementing the local WAMPEN-RPOS project. The Operations Team will work closely with other groups to deliver targeted technical assistance and professional community resources. The Evaluation Team will be responsible for designing and implementing the Baseline AM-POS Assessment.

The local partnership(s) will be led by a 10-20 member Local Partnership Team (LPT), which includes a technical college dean, three local high school CTE directors/coordinators, AMP faculty from school and college partners, and 2-3 business members of the local/regional AM-POS advisory committee. Following a WAMPEN Briefing for all local or regional stakeholders and a project orientation by the SLT, the LPT will meet regularly to: orient local stakeholder groups (local school and technical college boards, business groups) to the WAMPEN and provide monthly progress updates; assist the SLT-Evaluation Team in compiling and interpreting data for the baseline assessment report; provide local leadership in implementing the technical assistance strategy and on-line professional learning community; and disseminate the WAMPEN implementation and impact evidence.

(3) The Project Director and other key personnel clearly have the professional qualifications and experience necessary to implement their assigned project tasks

Dr. Allen Phelps, director of the UW-Madison's Center on Education and Work (CEW) will serve as the Project Director. Dr. Phelps will facilitate the monthly meetings of the State Leadership Team (SLT), which includes five key state agency leaders—two from the DPI, two from WTCS and one from DWD (to be appointed). The four State consultants provide leadership for Perkins-funded local program accountability and improvement in Manufacturing, Engineering, and Technology (Mackey and Kindred) and Tech Prep, Career Pathways, and Work-based Learning (Westrich and Larsen). Julie Durham, an experienced CEW Project Manager, will handle the day-to-day project coordination and implementation activities, including weekly communications and meetings with the Local Partnership Team (LPT). Dr. James Frasier, CEW Researcher-Evaluator, will manage the WAMPEN Network's baseline assessment and external evaluation activities. With 22 years of experience as a WTCS Associate

Vice President and Senior Policy Advisor, Dr. Janet Washbon will serve as a Senior Policy and Practice Analyst.

Dr. Washbon and Ms. Durham will facilitate joint the SLT-LPT meetings; coordinate LPT briefings; work with state and local partners to modify and/or develop additional data sharing agreements; provide project updates to stakeholder groups such as WTCS administrators and instructional deans and local K-12 leaders; analyze project data; and dissemination project findings by writing data analysis briefs, describing promising practices on the project website, and co-presenting project findings at national and state conferences. Resumes for the SLT can be found in the e-Application. Collectively, the SLT has considerable breadth and depth of experience in sectors directly related to the successful implementation of the WAMPEN Network: CTE and academic instruction in secondary and postsecondary settings (~40 years), State level leadership and policy analysis (~45 years), Business and industry leadership (~25 years), and Externally funded research and evaluation studies (~45 years).

WAMPEN will use a project management and communication web-based tool (i.e., Basecamp) to communicate details about projects, disseminate technical assistance materials, and post project materials, deadlines and documents. Basecamp allows multi-level, controlled access for project managers and the SLT and LPT members. The CEW project leaders have used Basecamp successfully in several externally funded projects involving local teams of education and business leaders.

As noted in the Federal Register, members of the SLT and LPT teams will plan to disseminate WAMPEN information widely by posting project website links on the UW-Madison and State agency websites, and by presenting project results at several state and local

conferences. In addition to the national CTE and Career Clusters conferences, presentations will be planned for the following conferences (estimated attendance):

- Annual Careers Conference, Madison, WI (800)
- Project Lead the Way National Conference (300)
- American Education Research Association Annual Conference (10,000)
- Tech Prep Coordinators Monthly Meetings (16)
- WTCS Trade and Industry Deans Meeting (30)
- WI Association of Leaders in Education and Work (WALEW) Summer Conference (150)
- Fall Career and Technical Education Coordinators Conference (200)
- Wisconsin Technology Education Association (500)
- DPI's Every Child a Graduate Conference (1000)
- National Career Pathways Network Conference (1000)

(4) The time commitments of the Project Director, key personnel, and partners are appropriate to the tasks assigned

As noted in the Budget Justification, each of the four State consultants will be assigned to the project for ten percent (10%) time for each year. Since their regular duties include providing state POS leadership and local pathway technical assistance, their staff time is contributed. The other SLT members and their project-dedicated work assignments include: Allen Phelps (Project Director, 22%), Julie Durham (Project Manager, 50%), James Frasier (Evaluation Coordinator, 50%), and Janet Washbon (Senior Policy and Practice Analyst, 25%).

(e) <u>Adequacy of resources</u>

(1) The adequacy of support to be provided (i.e., facilities, equipment, supplies, or other resources) by participating agencies and institutions at the State and local levels.

The paragraphs below provide brief overviews of the resources available at the WTCS, WDPI, and the UW-Madison's Center on Education and Work to support the WAMPEN. Elaborated descriptions of the organizational and institutional capacity can be found in Attachment L.

Wisconsin Technical College System -- State Board and System Office

As the governing body for the Wisconsin Technical College System (WTCS), the 13-member State Board establishes statewide policies and standards for educational programs and services provided by the state's 16 technical colleges. Each technical college serves a geographical area referred to as a district. Districts have nine-member appointed boards and are empowered to levy property taxes to fund the cost of instruction, facilities, equipment and staff. The technical colleges equip graduates with real world, hands-on experience these graduates apply to specific occupations and stimulate local economic development by providing a well-educated workforce based solely on the occupational needs of local business and industry. The colleges offer more than 300 programs providing: two-year associate degrees; one- and two-year technical diplomas; short term technical certificates (nine months or less); and customized training and technical assistance (direct to business and industry).

The work of the State Board is carried out by an approximately 60-person staff in the System Office housed in a state office building in Madison, Wisconsin. The System Office is led by the system President appointed by the State Board, his executive assistant, and two vice-presidents and is organized into two divisions. The Division of Teaching and Learning provides leadership and administrative oversight for the development and delivery of technical college educational programs, student services and assessment, economic development and adult basic education. The Division of Finance and Administration is responsible for the System Office's

internal operations including accounting, budgeting, procurement, payroll, human resources, facilities, information technology; system wide data collection and management information systems; guidance to the technical colleges in developing financial policies and standards, distributing state aid, determining student fees and tuition rates, certifying district education personnel, and approving district facility development proposals.

The State Board is the sole State agency authorized to administer or supervise the administration of the State career and technical education program under Perkins IV. While retaining overall responsibility for administration of Wisconsin's Perkins funding and the postsecondary and Tech Prep portions of the program, the State Board delegates responsibility for the administration, operation and supervision of Perkins at the secondary level to the Wisconsin Department of Public Instruction (DPI). Primary responsibility for administration and leadership of the secondary portion of the program rests with the state Superintendent of Public Instruction and the DPI.

Wisconsin Department of Public Instruction

The Wisconsin Department of Public Instruction (DPI) is the state education agency. It provides direction and technical assistance for public elementary and secondary education in Wisconsin. The department offers a broad range of programs and professional services to local school administrators and staff. It distributes state school aids and administers federal aids to supplement local tax resources, improves curriculum and school operations, ensures education for children with disabilities, offers professional guidance and counseling, and develops school and public library resources. DPI is housed in a state office building in Madison, Wisconsin. DPI is responsible for administering an annual budget of $6.5 billion. Of this, approximately 17.5% or $1.2 billion are federal funds to support the state's education program. State leadership

operations are funded with a combination of state, federal and other funds totaling $101.1 million and DPI employs about 650 FTEs in total.

DPI is headed by the State Superintendent of Public Instruction, a nonpartisan, elected constitutional officer who is directly responsible to the people of the state for the supervision of elementary and secondary public education. The state superintendent appoints a deputy state superintendent and assistant state superintendents. The assistant superintendents are responsible for administering the operating divisions of the department.

The 18-person Career and Technical Education Team is housed in the Division for Academic Excellence and provides leadership for the state's secondary program for Perkins IV including efforts to design, implement, and continuously improve POS. The CTE Team is also responsible for providing school districts with assistance in curriculum development, developing and implementing technical skills standards, instructional methods and strategies - including web-based education programs and professional development.

For secondary programs under Perkins IV, DPI established the following as state priorities for state leadership and local funding: (1) Establishment of programs of study including existing program improvement/expansion, development/implementation of new programs, and increasing the rigor of work-based learning programs; (2) Provision of Special Populations Activities and Support Services focused on improving student performance affecting secondary Perkins IV accountability; (3) Expansion of Nontraditional Occupations (NTO) Career Awareness and Exploration; Participation and Completion; and (4) Revision of Career Guidance and Development based on the new Wisconsin School Counseling Model.

Center on Education and Work and Wisconsin Center for Education Research, University of Wisconsin-Madison

Located within the highly ranked School of Education at the University of Wisconsin–Madison, the Center on Education and Work (CEW) is in its 46th year of operation. CEW's portfolio of research projects, evaluation studies, and program improvement initiatives aim to produce new knowledge and effective practices that strengthen learning and career development outcomes in and across education, workplace, family, and community settings.

Currently, three strategic priorities guide CEW's work: (a) developing and documenting innovative approaches for integrating career-related learning, instruction, and assessment strategies, (b) developing technology applications and comprehensive support systems that ensure all learners have access to equitable opportunities, and (c) strengthening the capacity for systemic-level inquiry and innovation through leadership and professional development programs, policy analysis, and evaluation. CEW's two outreach units provide value-added services and resources to Wisconsin, national, and international audiences and organizations.

The Wisconsin Careers group has a 34-year history of serving youth, adults, and professionals with quality, web-based career development resources. Two portals serve both students and professionals in schools, colleges, and workforce development centers throughout Wisconsin and the nation. During 2008–09, the portals provided access to labor market, career, and postsecondary information for more than 10 million logins. The portals provide users a wealth of assessment tools and detailed career exploration and planning information for 16 career clusters, 79 pathways including more than 700 occupations, and programs of study in approximately 3,400 postsecondary education institutions across the U.S. Recently, the Wisconsin Careers group was selected by a prominent ministry of education in Asia to design, test, and support a comprehensive education and career guidance portal for national use. Faculty members, graduate and undergraduate students, and local innovation teams utilize the data-rich

portals to conduct research and evaluation studies examining students' career decision making, career self-efficacy, and other variables and to assess the effects of career education focused interventions and programs.

The Careers Conference and Professional Development team sponsors a major national conference each February, which is attended by 800-1,000 professionals. The Careers Conference examines best practices, recent research, and new career-related education and training initiatives. The Career Development Facilitator certification program (in collaboration with the National Career Development Association) and a series of summer institutes are also operated by CEW. CEW's publications unit distributes center research papers and career-related curriculum materials to high schools and postsecondary institutions worldwide.

CEW is housed within the Wisconsin Center for Education Research (WCER) and benefits from its many services. One of the nation's oldest and most highly esteemed university-based education research and development centers, WCER provides a productive environment where scholars conduct basic and applied education research and development.

WCER research spans the full scope of education, from elementary education to undergraduate and graduate curriculum reform. With annual outside funding exceeding $40 million, WCER is home to centers for research on the improvement of mathematics and science education from kindergarten through postsecondary levels, the strategic management of human capital in public education, and value-added achievement, as well as the Minority Student Achievement Network and a multistate collaborative project to develop assessments for English language learners. Other WCER projects focus on leadership, special education, teacher professional development, social capital and children's development, and education technology, among other topics. WCER also hosts a training program for social science doctoral students

conducting research on education. Although most of WCER's research has a national focus, attention to local and global contexts is also found in the center's portfolio.

The WCER Technical Services Department provides multimedia services, custom software development, and computer support for more than 350 networked computer systems. data warehousing and network operations are supported by more than 25 servers including an active-active cluster of two data warehouse servers running Enterprise MS-SQL 2005 on a Windows 2003 Advanced Server. Technical Services supports multiple graphics and video workstations that facilitate the integration of computer and multimedia technologies. In addition, the department includes a state-of-the-art multimedia studio staffed by multimedia artists, animators, and programmers. In support of collaborative research, WCER has deployed an enterprise-level Web-based collaborative environment to support distributed work across complex partnerships. This environment facilitates data sharing and is backed up by a relational database for tracking and reporting project activities and project outputs and monitoring project status.

CEW and WCER are based in the UW-Madison School of Education, which is consistently ranked one of the top schools of education in the country. *U.S. News & World Report*, in the 2010 edition of its guide to the best graduate schools of education, ranked the UW-Madison School of Education seventh in the nation (tied with four other universities); in the specialty rankings, the School of Education came in first in curriculum and instruction and educational psychology; second in administration/supervision, counseling/personnel services, elementary education, and secondary education; third in education policy; and ninth in special education.

(2) Whether the budget is appropriate and the costs are reasonable in relation to the objectives and design of the proposed project.

The WAMPEN objectives and deliverables are readily achievable with the federal and non-federal funds requested and committed herein. Building the tools and processes for a rigorous AM-POS will require extensive engagement by local partners and key stakeholders. In Years 1 and 2 approximately $45,000 will be allocated to the AM-POS Local Partnership Team to assist in developing and pilot testing the evaluation tools and technical assistance/professional learning community strategies.

Each of major partners (WTCS, WDPI and CEW) are providing a share of the non-federal costs of the project, since both state agencies and the Center on Education and Work view the project as having significant, long-term benefits to the State of Wisconsin. It is important to note that these are actual cost-sharing contributions rather than in-kind contributions. Several key project staff from the state education agencies will be contributing 15% of their time from lead state-wide CTE consultation and technical assistance responsibilities.

(f) Evaluation

Components of the evaluation for WAMPEN will be fully developed and pilot tested in Year 1, and implemented in project years 2 through 4. During Year 2, the evaluation design will be fully implemented at the Northcentral AM-POS Local Partnership; in Years 3 and 4, the evaluation design and instruments will refined and used in 2-4 additional regional AM-POS regional partnerships. Overall the evaluation plan has three goals: (1) To assess the AM-POS constancy of implementation; (2) To assess effectiveness of each of the 10 POS Design

Framework components as applied to the AM-POS; and (3) To assess AM-POS student outcomes.

An adaptation of discrepancy evaluation for educational improvement will be used as the conceptual framework for structuring the evaluation[2]. The purpose of the discrepancy evaluation design is to surface information needed for determining the extent to which what was *intended* to be accomplished was *actually* accomplished. More specifically, evaluation will focus on three elements of potential discrepancy in the AM-POS intervention: *Element #1:* Identifying discrepancy-producing and/or discrepany-reducing factors affecting the constancy of the AM-POS plan implementation and actual program operations. *Element #2:* Identifying discrepancies between and/or among individual groups involved in applying the 10 AM-POS Design Framework components and subcomponents. *Element #3:* Identifying discrepancies between intended and actual AM-POS student outcomes.

Evaluation Implementation Plan Project Year 1

Following consultation from the U.S. Office of Vocational and Adult Education (OVAE) and participation in the OVAE Evaluation Design Meeting in Washington DC, the Evaluator and SLT-Evaluation Group will focus in project year 1 on developing, pilot testing, and refining evaluation data collection tools and instruments that will be used in 3-5 regional AM-POS implementation sites during project years 2 through 4 to inform each of the three evaluation goals. During Project Year 1, the SLT-Evaluation Group will meet monthly to review and finalize plans for evaluation instrument design, development, and pilot testing. The SLT

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2 Worthen, B. R., Sanders, J. R., and Fitzpatrick, J. L. (1997). 2nd Edition. *Program evaluation: Alternative approaches and practical guidelines*. New York: Longman.

Evaluation Group members are data and evaluation experts: Rodney Packard, Director of Wisconsin DPI LDS project; Kelly Gallagher, Project Director of the WTCS LDS project; the WTCS Performance Measurement (Evaluation) consultant, Fran Johnson; and Sharon Wendt, DPI's State Director of Career and Technical Education.

During October 2010–March 2011. The Evaluator will (1) Secure necessary written consent from the UW-Madison Institutional Review Board (IRB), Wisconsin DPI, WTCS, and from each of the three participating school and technical college districts to access de-identified student information from the Wisconsin DPI ’s Longitudinal Data System (DPI-LDS), the WTCS Client Reporting System (WTCS-CRS), and the local LEA/TC student and administrative record data systems; (2) Work in close consultation with the DPI-LDS, WTC-CRS, and local LEA/TC data analysts to develop and pilot test a data program for extracting student data from the DPI-LDS, WTC-CRS, and local systems that inform the seven performance measures required in Sections 113(b) and 203(e) of the 2006 Perkins Act (see footnote 1 on page 12. The fully developed data program for extracting student data from the two State and four LEA/IHE data systems will be used to inform Evaluation Goal #3 by annually producing performance measure data for: (a) AM-POS participants in each of the three participating high schools; (b) AM-POS participants at the technical college; and (3) a control group of AM-POS students who have ***not*** had the benefit of participating in an AM-POS aligned with the 10 POS Design Framework components. This baseline AM-POS Student Outcomes Profile will use a three-year sampling frame. That is, the CPA performance outcomes for each of the groups (i.e., high school AM-POS students, technical college AM-POS students, and non-AM-POS students) will be extracted from separate data systems and compiled for the 2006-09 academic years in the AM-POS comprehensive data base.

During November 2010–March 2011. The Evaluator will develop, pilot test, and refine a set of four instruments that will be used to assess effectiveness of each of the 10 POS Design Framework components as applied to the AM-POS. When fully developed, these sets of instruments will be administered individually via the Internet or by paper to members of three stakeholder groups: (1) members of the LPT at the three high schools and the technical college; (2) high school and technical college students participating in the AM-POS; and (3) all members of the local or regional AM-POS program advisory committee. In addition, (4) the AM-POS External Evaluation Team that conducts the annual two-day visit to each of the three high schools and the technical college will complete a set of similarly constructed instruments for assessing the effectiveness of each of the 10 POS Design Framework components as applied to the AM-POS. Each set of stakeholder group instruments will contain one section for each of the 10 POS Design Framework components and their respective subcomponents. A draft set of four stakeholder instruments for one of the 10 POS Design Framework components – Component #8 *Career Counseling and Academic Advisory Services* – is provided in Attachment M.

During December 2010–March 2011. The Evaluator will pilot test the *Wisconsin Career Cluster and Pathway Framework Evaluation Survey* (directly aligned with OVAE's 10 POS Design Framework components) that will soon be released in the *Wisconsin Career Cluster and Pathway Implementation Guide* (see pages 63-66 in Attachment C). After the pilot test, the survey instrument will be modified and/or refined to ensure the instrument gathers the most valid and reliable constancy of intervention data during project years 2-4 inclusive.

During April 2011. In early April, the Evaluator will administer the fully developed *Wisconsin Career Cluster and Pathway Framework Ten Component Survey* to each of the three local high school and the technical college AM-POS implementation teams. Results from the

administration of this instrument will be used to (a) establish baseline data for annually comparing subsequent results from administration of the instrument in project years 2-4 in the 3-5 regional AM-POS Partnerships inclusive, and (b) informing Evaluation Goal #1.

In late April, the Evaluator will administer sets of four stakeholder instruments for assessing the effectiveness of each of the 10 POS Design Framework components as applied to the AM-POS. Results from the administration of the fully developed set of 10 POS Design Framework component instruments will be used to (a) establish baseline data for annually comparing subsequent results from administration of these instruments in project years 2-4 inclusive, and (b) informing Evaluation Goal #2.

In addition, results from the April 2011 administration of the fully developed the fully developed *Wisconsin Career Cluster and Pathway Framework Ten Component Survey* and the set of 10 POS Design Framework Component instruments will be used by the WAMPEN project staff to inform the selection of content areas for inclusion in the 2011 Summer Institute.

During May 2011. A two-day External Evaluation Team visit will be conducted at each of the three local high schools and the technical college that are participating in the AM-POS intervention. Facilitated by the Evaluator, each five-member External Evaluation Team will be composed of: (1) a local advanced manufacturing business leader; (2) the Wisconsin Technical College System Education Director for Engineering and Manufacturing; (3) the Wisconsin State Department of Public Instruction Technology and Engineering Consultant; and (4) at least two non-business members of the regional AM-POS program advisory committee. External Evaluation Team activities will include: (1) scheduled interviews with the AM-POS local implementation team, AM-POS students, local AM-POS advisory committee members, parents of AM-POS students, and school administrators; and (2) review of AM-POS documentation to secure

information for completing the *Wisconsin Career Cluster and Pathway Framework Ten Component Survey* and the set of 10 POS Design Framework Component instruments as Applied to the AM-POS Instrument. Working in close consultation with the External Evaluation Team, the Evaluator will produce a final report of the Team's findings within one month after each on-site visit. Results presented in the External Evaluation Team's reports will inform Evaluation Goal #1 and Goal #2.

In addition, the External Evaluation Team experiences in using the *Wisconsin Career Cluster and Pathway Framework Ten Component Survey* will provide information for continuous improvement of the *Wisconsin Career Cluster and Pathway Implementation Guide* in project years 2- 4 inclusive.

During July and August 2011. The Evaluator will use the data program for extracting longitudinal data for all students enrolled during the 2009-11 school year in the AM-POS at each of the three participating high schools and the technical college. These data will establish four baseline data sets for use in determining AM-POS student progress in project years 2-4 inclusive. In addition, the Evaluator will use the data program for extracting longitudinal data from the WTCS-CRS to form a sample pool from postsecondary students currently enrolled in Advanced Manufacturing POS in the Wisconsin Technical College System. From this sample pool, 100 postsecondary students will be randomly selected who have ***not*** had the benefit of participating in an AM-POS aligned with the 10 POS Design Framework components (i.e. control group). The group of 100 postsecondary students will be used to compare the outcomes for these students against the outcomes for students in the three high schools and the technical college who participate in the AM-POS aligned with the 10 POS Design Framework components. Results from the analyses will inform Evaluation Goal #1.

Project Years 2 through 4 Evaluation Implementation Plan.

The evaluation instruments and data collection tools administered during the first project year will establish a comprehensive baseline AM-POS data base. At the end of Year 1, the recommendations of the External Evaluation Committee will guide the SLT Evaluation Group and Evaluator in making changes that will enhance the quality, reliability, and utility of the WAMPEN instruments, data extraction and collection procedures, analysis tools, and reporting formats. In years 2-4, the suite of WAMPEN evaluation strategies and tools will be used annually in 3-5 regional AM-POS/WAMPEN Partnerships, including the Northcentral WAMPEN Partnership in Year 2.

After evaluation activities have been completed in January, April and May, the Evaluator will produce and present an evaluation report to the SLT and the LPT. The evaluation reports will provide: (a) descriptive statistical analyses of stakeholder group responses comparing the results of each completed evaluation activity to the baseline data established in Project Year 1; and (b) results of one-way analyses of variance (ANOVAs) that identify differences between respondent groups. These interim reports will provide *formative evaluation* information for informing: (a) AM-POS Constancy of Implementation for each participating high school – Evaluation Goal #1; and (b) the effectiveness of the 10 POS Design Framework components – Evaluation Goal #2.

The WTCS-CRS and DPI-LDS data extraction reports produced in October of each year will be compared with the baseline data profile established in Project Year 1 for within region and across region gains in the WAMPEN . These annual data extraction reports produced during project years 2–4 inclusive and the final for the WAMPEN Evaluation Report will provide *summative evaluation* information for informing the seven performance measures to assess the

progress of students required in Sections 113(b) and 203(e) of the Act (Perkins, 2006). Utilizing descriptive statistical analyses, data for each of the seven performance indicators will be produced: (1) *Secondary school completion* The percentage of secondary students participating in the AM-POS supported by the grant award who earn a high school diploma; (2) *Technical skills attainment* The percentage of secondary students participating in the AM-POS supported by the grant award who attain technical skills; (3) *Earned postsecondary credit during high school* The percentage of secondary students participating in the AM-POS supported by the grant award who earn transcripted (dual) postsecondary credit; (4) *Enrollment in postsecondary education* The percentage of secondary students participating in the AM-POS supported by the grant award who enroll in postsecondary education by the fall following high school graduation; (5) *Enrollment in postsecondary education in a field or major related to the secondary AM-POS* The percentage of secondary students participating in the AM-POS supported by the grant award who enroll in a postsecondary education program in a field or major related to the participant's secondary AM-POS; (6) *Need for developmental course work in postsecondary education.* The percentage of secondary students participating in the AM-POS supported by the grant award who enroll in one or more postsecondary education developmental courses; and (7) *Postsecondary credential, certificate, or diploma attainment* The percentage of secondary students participating in the AM-POS supported by the grant award who attain an industry recognized credential, certificate, or associate's degree within two years following enrollment in postsecondary education.

In addition, the annual summative evaluation reports and the final WAMPEN Evaluation Report will provide results from one-way analyses of variance (ANOVAs) identifying differences between students' progress from their participation in the AM-POS aligned with the

10 POS Design Framework components *against* the control group of postsecondary students who have ***not*** had the benefit of participating in an AM-POS aligned with the 10 POS Design Framework components. These summative evaluation reports will inform Evaluation Goal #3.

The Center on Education and Work (CEW) at the University of Wisconsin-Madison will be contracted to conduct the evaluation activities described above (see Adequacy of Resources section for CEW's institutional capacity). Most recently, CEW has conducted complex and multiple year evaluations of school-to-work initiatives, evaluation of the Kern Foundation multi-year initiative *Project Lead The Way* in Wisconsin schools, longitudinal study of university graduates with disabilities, investigations of high-poverty high performing high schools' providing of services for students with disabilities, and the development of computer-based career development and instructional systems.

Dr. James R. Frasier will serve as the Lead Evaluator for the AM-POS project. Dr. Frasier is a Senior Researcher and Evaluation Specialist at CEW and member of the UW-Madison academic staff. Currently, he is the Lead Evaluator for Wisconsin's five-year U.S. Office of Special Education's State Personnel Development Grant, and also the Lead Evaluator for a three-year NASA Climate Literacy Project being implemented with public school teachers by the UW-Madison Space Science and Engineering Center. Dr. Frasier's resume is provided in the resume section of the e-Application. Dr. Frasier and other WAMPEN SLT members are committed to participate in the OVAE Evaluation Design Meeting to be conducted in Washington DC.

Project Narrative

RESUMES

Attachment 1:
Title: **WI project CVs** Pages: **36** Uploaded File: **WI project CVs all.pdf**

Janet L. Washbon

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Professional Experience

	Office of Policy and Government Relations, Wisconsin Technical College System, State of Wisconsin, Madison, WI.
1996-2009	Associate Vice President
1988-1996	Senior Policy Advisor
	Division of Employment and Training Policy, Department of Industry, Labor and Human Relations, State of Wisconsin, Madison, WI.
1986-1988	Director, Wisconsin Occupational Information Coordinating Council
	Temple University, Philadelphia, PA
1982-1986	Visiting Assistant Professor, Urban Studies Department and Assistant Director, Institute for Public Policy Studies, College of Liberal Arts
	University of Pennsylvania, Philadelphia, PA
1982	Lecturer, Urban Studies Program
1978-1982	Research Associate, Community Development Strategies Evaluation, Regional Science Department and Fels Center for State and Local Government
1977-1978	National Science Foundation Dissertation Fellow
1973-1977	Graduate Research Assistant, Regional Science Department
	Northwestern University, Evanston, IL
1972-1973	Graduate Research Assistant, Geography Department
1971-1972	University Fellow and Teaching Assistant, Geography Department

Education

Ph.D. Regional Science Department, University of Pennsylvania, Philadelphia, PA, 1983.
M.S. Geography Department, Northwestern University, Evanston, IL, 1972.
B.A. Anthropology Department, Northwestern University, Evanston, IL, 1971.

Community Service

Guest Lecturer, University of Wisconsin-Madison, educational leadership and policy analysis and educational policy studies, School of Education (1992 to 2010).

Trustee, Friends of Hoyt Park
President (May 2009-present), Vice President (May 2008-May 2009), and Board Member (May 2007 to present). Provide leadership and oversight for award winning non-for-profit volunteer group to assist Madison (WI) Parks Department with long-range planning, protection and maintenance of the park; fund raising for the benefit of the park; and linking with other related organizations and institutions.

Trustee, Wingra School, Madison, Wisconsin
President (July 1998-June 2001), Vice President (July 1996 to June 1998), and Board Member (July 1993 to June 1998). Provided leadership and oversight for the operation of a coeducational independent K-8 school with a staff of twenty serving on average 150 students.

Trustee, Philadelphia Council for Community Advancement, Philadelphia, PA
Board Member (June 1982 to June 1986). Provided oversight and direction for a United Way agency in operation since 1962 that provides comprehensive housing-related services that respond to the needs of residents and communities.

Selected Papers, Presentations, and Publications

Washbon, J. L. (2009). Learning and the new workplace: Impacts of technology change on postsecondary career and technical education. Paper presented to the Colloquium on Re-visioning Two-Year Colleges in the Midwest, University of Wisconsin-Madison.

Washbon, J. L. et al. (2008) Five-Year Unified Secondary and Postsecondary State Plan to implement the Carl D. Perkins Career and Technical Education Act of 2006. Madison, WI: Wisconsin Technical College System Board.

Washbon, J. L. (2008). WTCS 2005-08 Strategic Directions Implementation Report. Madison, WI: Wisconsin Technical College System Board.

Washbon, J. L. (2007) Understanding Perkins IV programs of study and career clusters. Madison, WI: Wisconsin Technical College System Board.

Washbon, J. L. et al. (2007). One-Year Transition Unified Secondary and Postsecondary State Plan to implement the Carl D. Perkins Career and Technical Education Act of 2006. Madison, WI: Wisconsin Technical College System Board.

Washbon, J. L. (2006). Wisconsin Technical College students transferring credit from University of Wisconsin System and other postsecondary institutions 2004-05. Presentation to the Speaker's Taskforce on Wisconsin's Technical College System, Wisconsin Assembly, Madison, WI.

Washbon, J. L. et al. (2005). Expanding access to baccalaureate education in Wisconsin. Madison, WI: Report of the Joint UWS/WTCS Committee on Baccalaureate Expansion. Wisconsin Technical College System Board and University of Wisconsin System.

Washbon, J. L. (2004). The role of the technical college system in workforce preparation. Paper prepared for Building the New Wisconsin Economy, Forum 5: Human Resources, Eau Claire, WI.

Washbon, J. L. (2004). Progress report on implementing improvements in technical college credit transfer with the University of Wisconsin System. Madison, WI: Wisconsin Technical College System Board.

Washbon, J. L. with L. J. Rubin. (2000). Postsecondary education in the knowledge economy: Innovative opportunities available for learners in a seamless manner. White paper and remarks prepared for Edward Chin, President, Wisconsin Technical College System and Katharine C. Lyall, President, University of Wisconsin System. Delivered to the Wisconsin Economic Summit I, Milwaukee, WI.

Washbon, Janet L. with L. J. Rubin, et al. (2000). Statement of guiding principles on the transfer of credit from the Wisconsin Technical College System to the University of Wisconsin. Madison, WI: Joint resolution adopted by the University of Wisconsin Board of Regents and Wisconsin Technical College System Board.

Washbon, Janet L. with L. J. Rubin, et al. (2000). Improving opportunities for transfer from the Wisconsin Technical College System to the University of Wisconsin System. Report of the Transfer Study Committee. Madison, WI: Wisconsin Technical College System Board and University of Wisconsin System.

Washbon, J. L. (1995). School-to-work initiative. Paper prepared in support of the WTCS 1995-97 state biennial budget request. Madison, WI: Wisconsin Technical College System Board.

Washbon, J. L., Thompson, C., et al. (1995) Wisconsin Manufacturing Extension Partnership: A strategic plan for improving manufacturing competitiveness in Wisconsin. Madison, WI: Wisconsin Center for Manufacturing Productivity, Wisconsin Statewide Taskforce Extension (STEP) Project.

Washbon, J. L. (1994). Making systematic connections between education and work. Policy issue paper presented to the Great Lakes Policy Institute on Education and Work, Schaumburg, IL.

Washbon, J. L. (1993). Building a quality workforce for Wisconsin: progress report. Madison, WI: Wisconsin Board of Vocational, Technical and Adult Education and Governor's Commission for a Quality Workforce.

Washbon, J. L., York, D. A., and Stewart, L. (1992). Beyond educational reform: Building an agenda for workforce readiness. Paper presented at the Fourth Annual International Conference on Leadership Development in Community Colleges. League for Innovation and Community College Leadership Program of the School of Education, University of Texas, Chicago, IL.

Washbon, J. L. (1992). Setting world class standards for American workers: The role of business and industry. Remarks prepared for C. Weigell, President, Motor Castings Company and Chair, Governor's Commission for a Quality Workforce delivered to the National Governors Association, Washington, DC.

Washbon, J. L. (1992) Educational excellence for a quality workforce: Wisconsin's technical college system. Prepared for D. A. York, State Director, Vocational, Technical and Adult Education. Madison, WI: Wisconsin Board of Vocational, Technical and Adult Education, State of Wisconsin.

Washbon, J. L. (1991). Building a quality workforce for Wisconsin: Executive summary and recommendations. Madison, WI: Governor's Commission for a Quality Workforce.

Washbon, J. L. (1991) Report of the Manufacturing Technology Center Initiative Task Force. Madison, WI: Governor's Science and Technology Council.

Washbon, J. L. (1990). The role of Wisconsin's Technical College System in applied technology transfer and productivity enhancement. Program Policy Study 6.00. Madison, WI: Bureau of Policy and Government Relations, Wisconsin Technical College System Board, State of Wisconsin.

Washbon, J. L. (1990). Remarks before the School Organization Committee for the Governor's Commission on Schools for the 21st Century delivered by Dwight A. York, State Director, Wisconsin Vocational, Technical and Adult Education System, Milwaukee, WI.

Washbon, J. L. (1989). The role of the VTAE system in the delivery of education below the postsecondary level. Program Policy Study 3.00. Madison, WI: Bureau of Policy Studies and Intergovernmental Relations, Wisconsin Board of Vocational, Technical and Adult Education.

Washbon, J. L. (1989). The role of Wisconsin's vocational-technical education system in coordinating job training. Program Policy Study 2.00. Madison, WI: Bureau of Policy Studies and Intergovernmental Relations, Wisconsin Board of Vocational, Technical and Adult Education.

Washbon, J. L. (1989). Minority student recruitment and retention. Student Recruitment and Retention Policy Study 1.00. Madison, WI: Bureau of Policy Studies and Intergovernmental Relations, Wisconsin Board of Vocational, Technical and Adult Education.

Washbon, J. L. (1989) The associate degree in the vocational, technical and adult education system. Program Policy Study 1.00. Madison, WI: Bureau of Policy Studies and Intergovernmental Relations, Wisconsin Board of Vocational, Technical and Adult Education.

Washbon, J. L. with J. Prange and D. Alder. (1989). Wisconsin Works: Career Opportunities Guide. Madison, WI: Wisconsin Occupation Information Coordinating Council. Division of Employment and Training Policy, Department of Industry, Labor and Human Relations, State of Wisconsin.

Washbon, J. L with N. Barthel and R. Lambert. (1987). Using a career information system in the Job Service offices: The experience of the Wisconsin Career Information System. Paper presented at the Annual NOICC/SOICC Conference, Portland, OR.

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Director, Center on Education and Work
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964 Educational Sciences Building
1025 West Johnson
Madison, Wisconsin 53706

Office Telephone: (608) 263-2714
FAX: (608) 262-3063
Home Telephone: (608) 829-2495
E-mail: aphelps@education.wisc.edu

PROFESSIONAL PREPARATION

Central Michigan University	Industrial Education and Curriculum	B.S. 1970
Central Michigan University	Industrial Education and Curriculum	M.A. 1971
University of Illinois at Urbana-Champaign	Education	Ph.D. 1976

APPOINTMENTS

1990-present	Director of the Center on Education and Work and Professor of Educational Leadership and Policy Analysis, University of Wisconsin-Madison
2003-04	Interim Director, Wisconsin Center for Education Research, School of Education, University of Wisconsin-Madison
1978-1990	Assistant, Associate, and full Professor, Vocational and Technical Education, University of Illinois
1984-1987	Associate Dean, College of Education, University of Illinois
1986 (Fall)	Visiting Scholar, School of Education, University of California at Berkeley
1977-1978	Assistant Professor and Special Needs Coordinator, Division of Occupational and Vocational Studies, the Pennsylvania State University
1976-1977	Post-Doctoral Intern, U.S. Office of Education, Bureau of Education for the Handicapped, Washington, D.C.
1971-1974	Curriculum Consultant in Vocational Special Education, Central Michigan University
1970-1971	Industrial Education Teacher, Beaverton (Michigan) High School
1969-1970	Industrial Education Teacher, Bloomfield Hills (Michigan) Lahser High School

RECENT PUBLICATIONS RELEVANT TO THE PROPOSAL

Phelps, L. A. (2009, September). *Colloquium on re-visioning two-year colleges in the Midwest: Summary perspectives and reflections*. Madison: Center on Education and Work, University of Wisconsin–Madison.

Phelps, L. A., & Alder, K. (2007, February). *Pre-engineering education in Wisconsin: Early development and emerging priorities*. Madison: Center on Education and Work, University of Wisconsin–Madison.

Phelps, L. A., Durham, J., & Camburn, E. (2009). *Engineering the math performance gap.* Madison: Center on Education and Work, University of Wisconsin–Madison.

Phelps, L.A. (2003). *High schools with authentic and inclusive learning: Selected features and findings.* NCSET Research to Practice Brief, 2(2), National Center for Secondary Education and Transition, University of Minnesota.

Mooney, M., Phelps, L.A., & Anctil, T.M. (2002). *Using post-school outcomes data to improve practices and policies in restructured inclusive high schools.* Brief #6. Madison: Research Institute on Secondary Education Reform for Youth with Disabilities, Wisconsin Center for Education Research.

Mooney, M. and Phelps, L. A. (2001). *Life After High School: Which Post-school Outcomes Matter for Students with and without Disabilities?* Brief #4. Madison: Research Institute on Secondary

Education Reform for Youth with Disabilities, Wisconsin Center for Education Research.

HONORS AND RECOGNITIONS

Member, Board of Directors, National Association for Industry-Education Cooperation, 1994-present.

Member and Chair (1996), Board of Directors, National Center for Research in Vocational Education, 1988-1999.

Chair, Editorial Board, *Journal of Vocational Education Research*, 1993-1995.

Member, National Advisory Panel, National Assessment of Vocational Education, 1992-1995.

Member, President's Committee on Employment of the Handicapped, 1987-1991.

Chair, Vocational Education SIG, American Educational Research Association, 1986-1987.

Vice-President of the American Vocational Association, Special Needs Division, 1982-1985.

Member, National Commission on Secondary Vocational Education, U.S. Department of Education and the National Center for Research in Vocational Education—The Ohio State University, 1984.

Teacher of the Year, Guidance and Vocational Support Services Division, Illinois Vocational Association,1982-1983.

Associate Editor and Editor, *Journal of Vocational Education Research*, 1980-1981.

SYNERGISTIC ACTIVITIES

- External Evaluator, 2008-10, Midwest Digital Fabrication Partnership (Award No. 0802388), Fox Valley Technical College. (http://www.mfln.org)
- External Evaluator in 2000-02 for the NSF-funded Advanced Technology Environmental Education Center (ATEEC) at Eastern Iowa Community College District, Bettendorf, Iowa (http://www.ateec.org)

COLLABORATORS

Sandra Courter, University of Wisconsin-Madison
Mitchell Nathan, University of Wisconsin-Madison
Gregory Moses, University of Wisconsin-Madison
Terrance Millar, University of Wisconsin-Madison

GRADUATE ADVISOR

Professor Rupert N. Evans, University of Illinois at Urbana-Champaign

THESIS ADVISOR FOR:

Lori A. Weyers, Northcentral Wisconsin Technical College, 2005
Vicki J. Martin, Milwaukee Area Technical College, 2002
Patricia Frohrib, Fox Valley Technical College, 2002
Christine Maidl-Pribbenow, University of Wisconsin-Madison, 2001
Vickie Gukenberger, Mid-State Technical College, 2001

JAMES ROBERT FRASIER
Resume

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College of Education
University of Wisconsin-Madison
964 Education Sciences Building
1025 West Johnson Street
Madison, WI 53706-1796

Phone: (608) 265-4579
FAX: (608) 262-3063

Email: jfrasier@education.wisc.edu
Website: www.cew.wisc.edu

EDUCATION

University of Illinois at Urbana-Champaign
Ph.D. Education

University of Vermont
Certificate of Advanced Graduate Study

Antioch New England University
M.A. Secondary Education

University of Michigan at Ann Arbor
A.B. Political Science

EMPLOYMENT HISTORY

University of Wisconsin-Madison
Center on Education and Work
Senior Researcher and Evaluation Manager

2001 – Present
Lead Evaluator
Five-Year (207 – 2012) US Department of Education Professional Development Grant to the state of Wisconsin for improving the education of students with disabilities.

Lead Evaluator
Three-Year (2010 – 2013) NASA grant to Space Science and Engineering Center at the University of Wisconsin-Madison for strengthening public school science teachers' knowledge about factors infuencing global climate change.

University of Illinois at Urbana-Champaign
Department of Human Resource Education
College of Education

2004 – Present
Visiting Assistant Professor
Instructor of internet-based graduate level courses: HRE 536 International Human Resource Development and HRE 532 Strategic Human Resource Development

Private Sector Training and Education

Motorola, Inc.
Motorola University
Senior Manager of Learning Research Worldwide

1987 – 2000

Responsible for managing the implementation of Motorola University's Learning Research Roadmap and network-based learning research worldwide. Organized and chaired 1996 and 1998 Motorola Learning, Training and Education Global Research Conference.

Public School Administration

1983 - 1985
Hartford Area Vocational Center
White River Junction, Vermont
Director, Adult and Continuing Education Services

1978 – 1985
Hartford Area Vocational Center
White River Junction, Vermont
Coordinator, Cooperative Vocational Education

1970 - 1973
Heifer Hill School
West Brattleboro, Vermont
Director

University Teaching

1981-1984
University of Vermont
Department of Vocational Education & Technology
Adjunct Faculty Member

Secondary Public School Teaching

1973 - 1978
Hartford Area Vocational Center
White River Junction, Vermont
Vocational Education Instructor

1969 - 1970
Brattleboro Union High School
Brattleboro, Vermont
Secondary Public School Teacher

Peace Corps

1965 – 1967
Dominican Republic
Peace Corps Volunteer

PUBLICATIONS

Frasier, James R. (2007). Partnerships that build understanding. *Principal Leadership*. Vol. 8. (4).

Frasier, James R. (2007). Transitioning students with disabilities from middle school to high school. *Teaching Exceptional Children Plus*. Vol. 4. (2).

Frasier, James R. (2005) Multi channel communication: a new learning technology. *Journal for vocational and technical education and training*. Brunei Darussalam: SEAMEO VOCTECH. pp.50-55.

Frasier James R., Editor (1995). *First Motorola Worldwide Learning, Training and Education Research Conference: Selected Papers.* Motorola University Press, Schaumburg, Illinois.

Phelps, L.A. & Frasier, J.R. (1988). Legislative and policy aspects of vocational special needs education. In Robert Gaylor-Ross (editor) *Vocational Education for Persons with Handicaps.* Mayfield Press, Palo Alto, California.

Frasier, James R. (1988). Surveying private sector employers to identify labor training needs. *Journal of Industrial Teacher Education.* Vol. 25, No. 4, pp. 41-48.

Frasier, James R. (1985). Rural state systems for evaluating handicapped and disadvantaged vocational programs. *The Journal for Vocational Education Research.,* Vol. 10, No. 2, pp. 19-33.

Frasier, James R. (1984). An analysis of state systems for evaluating vocational education programs and services for handicapped and disadvantaged students. ERIC Document NO. ED 237 662.

Albright, L. & Frasier, J. R. (1982). The Vermont vocational special needs evaluation system: Procedures manual for local education agencies. ERIC Document NO. ED. 22 515.

Frasier, James R. (1981). Involving the disadvantaged in co-operative education programs: The Hartford Area Vocational Center approach. *Journal of Vocational Special Needs Education.* Vol. 4, pp. 12-14.

Frasier, James R. (1981). Vermont VICA achievement program guide for VICA advisors: Involving handicapped and disadvantaged youth in VICA. ERIC Document NO. ED 198 396.

Frasier, James R. & Cobb, R.B. (1981). Inservice training for trade and industrial teachers in Vermont. *Journal of American Vocational Association*, Vol. 56, p. 34.

COMPLETED CENTER ON EDUCATION AND WORK PROJECTS

Integrating Academic Career and Technical Education. National scan of state efforts funded by Lake County High Schools Technology Campus, Lake County, Illinois.

Accountability and Results for Students with Disabilities in Nationally Recognized High-Poverty High-Performing High Schools. Four-year research project funded by US Office of Special Education and Rehabilitative Services

The Effect of Career and Technical Education Courses on Academic Achievement of Agriculture Students in Four Milwaukee Public High Schools. Research funded by Wisconsin Department of Public Instruction, Division for Academic Excellence, Vocational and Technical Education.

The Effect of Career and Technical Education Courses on Academic Achievement of Agriculture Students in Fourteen Rural Wisconsin Public High Schools. Research funded by Wisconsin Department of Public Instruction, Division for Academic Excellence, Vocational and Technical Education.

21st*Century Community Learning Centers in Wisconsin Evaluation.*Funded by the Wisconsin Department of Public Instruction, Division of Learning Support: Equity and Advocacy; Student Services, Prevention, and Wellness Team

*Youth to Youth: A Study of State AODA Funded Peer Programs in Wisconsin.*Funded by Wisconsin Department of Public Instruction, Division of Learning Support: Equity and Advocacy; Student Services, Prevention, and Wellness Team.

PAPER PRESENTATIONS

Frasier, James R. (Paper accepted for presentation November 13, 2010). Measuring Fidelity of Implementation for Wisconsin's State Personnel Development Grant. American Evaluation Association Annual Conference. San Antonio, Texas.

Frasier, James R. (June 30, 2009). *Evaluation Findings Inform Wisconsin's Special Education Personnel Development System.* 2009 Wisconsin Research Seminar on Improving Educator Quality. Wisconsin Dells, Wisconsin.

Frasier, James R. (November 7, 2008). *Using Internet-Based Enumeration Surveys to Collect Post-Training Information Data.* American Evaluation Association Annual Conference. Denver, Colorado

Frasier, James R. (July 17, 2007). *Evaluating State Professional Development Grant Initiatives at the Individual Practitioner, School, District/State Level.* US Department of Education, Office of Special Education Programs Project Directors Meeting. Washington, D.C

Frasier, James R. (December 11, 2004). *The Effect of Career and Technical Education Courses on Academic Achievement of Agriculture Students in Fourteen High Poverty Rural Wisconsin High Schools.* Association of Career and Technical Education Annual Conference. Las Vegas, Nevada

Frasier, James R. (July 23, 2002). *Wisconsin Special Education State Improvement Grant Evaluation: Conceptual Framework.* US Department of Education, Office of Special Education Programs Project Directors Meeting. Washington, D.C

Frasier, James R. (December 1999). *MCC – A New Learning Technology.* Association for Career and Technical Education Annual Convention. Orlando, Florida.

Frasier, James R. (August 1999). *Motorola University's Academic-Practioner Action Research Project.* Academy of Management Annual Conference. Chicago, Illinois.

Frasier, James R. (October1998). *Informal Learning in The Workplace.* Chicago Chapter of the American Society for Training and Development Annual Meeting. Chicago.

Frasier, James R. (May 1998). *Implementation of Web-based Evaluation Tools, Processes, and Procedures.* American Society for Training and Development Alternative Learning Technologies Benchmarking Forum. Motorola.

Frasier, James R. (December 1997). *Multi-Channel Communication Reduces Manufacturing Employee Training Time by 50%.* Asian Trainers' Convention. Penang, Malaysia.

Frasier, James R. (March 1996). *Motorola Guadalajara Manufacturing Workers Learning Preferences.* American Chamber Mexico Conference. Guadalajara, Mexico.

Frasier, James R. (April 1995). *Thinking Improvement Training.* Bright Star Learning Symposium. Universiti Malaya, Kuala Lumpur, Malaysia.

Frasier, James R. (June 1992). *Retraining Corporate America.* Business Development Symposium, National Alliance of Business, Chicago.

Frasier, J.R., Bever, M. (December 1991). *Home-based Computer Learning for At-Risk Youth and Adults.* American Vocational Association Annual Meeting. Los Angles, California.

Frasier, James R. (October 1988). *Training Motorola Senior Executives.* First International PRC Human Resource Development and Assessment Center Academic Conference. Shanghai, Peoples Republic of China.

Frasier, James R. (April 1985). *Surveying Private Sector Employers to Identify Labor Training Needs.* American Educational Research Association Annual Meeting. Chicago, Illinois.

Frasier, James R. (December 1984). *Surveying Business and Industry to Determine Adult Occupational Training Needs.* American Vocational Association Annual Meeting. New Orleans, Louisana.

Albright, L., & Frasier, J.R. (December 1983). *The Involvement of Students, Parents and Special Educators in Vocational Education.* American Vocational Association Annual Meeting. Anaheim, California.

Albright, L., Frasier, J.R., ericson, A., & Watson, B. (December 1982). *Development of a State System for Evaluating Disadvantaged and Handicapped Vocational Education Projects.* American Vocational Association Annual Meeting. St. Louis, Missouri.

SERVICE

University of Minnesota
1995 –1998
New Designs for The Two-Year Institution of Higher Education Research Project
National Advisory Panel Member

Education Development Center, Inc.
Newton, Massachusetts.
1993 – 1997

The Teaching Firm Research Project
National Advisory Panel Member

National Center for Research in Vocational Education
University of California at Berkeley
1993-1994
National Advisory Panel Member

United Nations
Beijing, PRC
1988
Sixteen nation human resource development delegation member

1985
Chair, Special Needs Division National Conference Planning Committee
American Vocational Association

Vermont Vocational Association
1980
President

AWARDS AND RECOGNITIONS

1998 United States Patent No. 5,758,293. Embodiments of the invention provide a wireless information retrieval system without requiring a modem attached to a computer. The system provides a low-cost option to on-demand services provided by fiber and cable networks that are unavailable to the vast majority of individuals in emerging and developing market countries. [See URL, http://www.patents.ibm.com/details?patent_number=5758293]

1998 Motorola University Client Relations and Creativity Award. For forming a cross-functional and cross-cultural team that delivered the LEAP program for future East Indian leaders, and for pioneering application of knowledge management practices.

1998 Motorola University Augusta Institutes Award. For designing and implementing an innovative evaluation process of the Augusta Middle Manager Institutes.

1997 Motorola University Risk Taking Award. For championing a cross-functional team that designed, developed and implemented Motorola's first network-based training evaluation system.

1995 Motorola University Best-in-Class Partnering Award. Presented by Motorola Guadalajara, Mexico in recognition of outstanding research to provide culturally appropriate training solutions for manufacturing associates.

1995 Motorola – NTU Satellite Transmission Launch Award. For execution of the first Asia/Pacific National Technological University (NTU) satellite transmission featuring Motorola's Chairman of The Board and the Prime Minister of Malaysia.

1995 Leading Courageously Award. Given for forging a partnership with Motorola Semi-Conductor Kuala Lumpur to organize the 1st Motorola Worldwide Learning, Training and Education Research Conference.

1992 Spirit of Partnership Award. For partnering with fellow Motorola University associates to implement the 1st Motorola University Academic Partnership Conference.

1992 Exceptional Customer Service Award. Presented for assisting a printed circuit board manufacturer understand the interrelationships between basic skills and successful quality improvement.

1991 Motorola University President's Award. For forging a partnership between Motorola businesses, educational institutions and external business partners that provided a network-based training solution to meet the needs of our employees for basic skills education.

1991 Jobs 2000: Public Broadcasting System Satellite Conference. For managing Project SALSA, recognized as 1 of 4 most innovative programs in the USA for assisting manufacturing operators in their efforts to improve reading and math skills.

1986 Kappa Delta Pi Honor Society, University of Illinois at Urbana-Champaign

1982 Vermont Vocational Industrial Clubs Outstanding Service Award for the implementation of innovative programs to increase the participation of handicapped and disadvantaged students in vocational education clubs.

PROFESSIONAL MEMBERSHIPS

American Evaluation Association
American Association of Career and Technical Education – Life Member

Victoria L. Pietz

N4419 HWY N * Birnamwood, WI 54414
Phone (715) 449-2200 * Email:ccv_1@msn.com

Education

Doctor of Education
Northcentral University
Currently enrolled 63 out of 81 credits completed, GPA 3.97

Master of Arts in Education-with an Emphasis in Distance Learning
University of Phoenix
Graduated 2003 GPA 3.94

Bachelor of Science in Business Management /Minor Marketing
Upper Iowa University
Graduated 1996 Cum Laude GPA 3.55

Associate Degree in Accounting
Northcentral Technical College
Graduated 1994 GPA 3.77

Associate Degree in Small Business Management
Northcentral Technical College
Graduated 1994 GPA 3.78

Vocational Degree in Accounting
Northcentral Technical Institute
Graduated 1984 GPA 3.78

Work Experience

July 2004-Present **Northcentral Technical College** Wausau, Wisconsin
Dean Technology and Trades Division
Responsible for program development, coordination, and supervision. Interact with legislative governing bodies; work collaboratively with other programs, community stakeholders, and educational disciplines to support student learning. Program scheduling and planning. Provide college-wide leadership on key initiatives, committees, and charters. Develop final budgets for all programs with the division of technology and trades, including approval of all expenditures and monitoring of all budget requests. Coordinate capital equipment purchases throughout the college. Develop grant proposals to enhance the offerings of the division. Supervise and assign workloads for all faculty in accordance with the faculty contract.

October 2003-December 2008 **Northcentral Technical College** Wausau, Wisconsin
Adjunct Instructor
I have experience teaching in the Administrative Assistant program, Agriculture program, and Basic Computer courses. I have used the World Wide Instructional Design System (WIDS) software to develop courses. During my employment with the college, I have had the opportunity to work closely with many departments regarding education, development of programs, and meeting customer needs.

August 2000-
June 2004

Substitute Teacher
Wittenberg-Birnamwood School District
Bowler School District
Substitute teacher for both long-term and daily for any subject. Prepare curriculum, develop lesson plans, and maintain accurate records of student attendance and academic achievement. Selected and produced the musical Cinderella. Taught middle school math, K-12 music, and Social Studies long-term. Promote teamwork and responsibility with both faculty members and students.

August 1998-
Present

Farm Owner
Golden Hills Farm Birnamwood, Wisconsin
Through strategic planning, organizing, and coordinating, we are able to progress as a business entity. All business areas such as, management of finances, equipment purchases, building repairs, livestock purchases, quality milk control, developing a feed program, researching and finding a milk plant, state and federal inspections, supervision of employees, rental of equipment, sales of hay and livestock, rental contracts/agreements for land, risk management, financial reports, tax preparation, and attending meetings regarding the dairy farming industry. The success of a farm depends greatly on maintaining production records, heard health records, breeding records, and vaccinations.

January 1991-
Present

Business Owner
VCP Birnamwood, Wisconsin
Own a tax and bookkeeping business. Assist small business owners develop business plans. Prepare financial statements with income and expense documents provided by clients. Complete monthly, quarterly, and yearly informational tax returns for the federal and state governments. Prepare payroll W-2's for employees of clients. Prepare cash flow statements and financial statements for clients and their banking officials. Utilize Quickbooks extensively in the preparation of financial statements. Set up Quickbooks for each client. Utilize the Internet to reconcile checkbook and credit card accounts through Quickbooks. Complete general journal entries along with check writing and income and expense entries for clients. For clients that prefer the paper method of bookkeeping, set up and train small business owners in maintaining a bookkeeping system that works for them. Help small business owners understand and interpret their financial records. Calculate monthly income and expenses for clients. Prepare income taxes for personal, sole proprietorships, partnerships, small corporations, and small farmers through paper filing and electronic filing methods. Research tax issues through the use of tax law manuals, Internet, and National Association of Tax Professionals. Offer sales tax filing online to assist small business owners in complying with federal and state requirements. Maintain confidentiality. Perform my business marketing through the creation of client newsletters, advertising flyers, print ads, radio spots, and word-of-mouth coupons. Handle all technology purchases, set up, operation, updates, and repairs. All incoming and outgoing communication; email, mail, telephone, fax, newsletters, and electronic information are personally handled by myself. Develop and maintain files on client information. Develop privacy letter regarding personal information. Attend seminars on tax and bookkeeping issues yearly. Manage all financial transactions for my business.

April 2000-
August 2001

Service Sales Manager
Kocourek Chevrolet
Jim Carter Chevrolet (name change to above) Wausau, Wisconsin

Responsible for decisions and planning on a daily basis in running a profitable service department. Manage and oversee entire nightshift operations. Direct 5 supervisors and 15 hourly employees. Maintain good employee relations and adherence to company policies and procedures. Ensure we comply with General Motors and Mazda standards. Schedule and oversee work for customer vehicle needs. Liaison between customer and warranty companies. Field customer concerns in a timely manner. Maintain excellent service standards with our fleet contracts. The position entailed constant communication with dealership personnel and customers. Gave customers accurate estimates for repairs on their vehicles through the collection of data from the technician, parts, warranty, sublet facilities, and customer requests. Comply with state Ag 132. standards in the service department. Coordinate parts and manpower for repairs on customer vehicles. Strive for high productivity and high quality in all areas. Schedule training for service personnel with dealership lines. Personally train service advisors, cashier, warranty administrator, file clerk, and receptionist. Assist in training new technicians. Run customer appreciation seminar quarterly; this included vehicle maintenance needed, bringing vehicle in for service, customer responsibilities, manufactures responsibilities, after hours help, and operating their vehicle. Chair weekly technician and service advisor meeting. Reprimand, praise, reward, and empower employees to become great employees. Maintain an open-door policy so employees could discuss problems and ideas. Develop and proofread customer maintenance log, maintenance interval flyers, and coupons. Extensive use of networking computer, calculator, telephone, pager, General Motors and Mazda Internet site for warranty claims; training, research, recall information, vehicle damage, and plant communication. Develop filing system for the hard copy of repair orders by vehicle identification and year of vehicle, soft copy of repair orders by number, and warranty claims by date paid. Over the years, had to create and recreate a paper flow that would work with changes made in department. Maintain confidentiality of customer information, vehicle information, employee information, and company information. Handle correspondence, telephone communication, email, business forms, and reports. Assist the cashier in the undertaking of entering all history in the computer for electronic retrieval. Perform documentation for both car manufacturers and federal and state regulations. Develop and assist in performing bulk mail advertising. Increase fleet business accounts for the nightshift operation through the use of personal visits, phone calls, and business letters.

March 1997-
March 1999

Service Advisor
Stark GM Merrill, Wisconsin

Responsible for all facets of team of four technicians. Report to service director. Held over 100% productivity throughout the year. Started extended service hours program. Maintained very high customer satisfaction on their visits to our service department. Responsible for scheduling, planning workflow, technician productivity, and customer promise times. Through collection of data from the technician, parts, warranty, sublet facilities, and customer requests compiled accurate estimates. Perform follow-up phone calls with customers regarding their satisfaction with the service department. Coordinate technician work on vehicles to best utilize their mechanical abilities and time allotted to perform the work. Perform documentation for both car manufacturers and federal and state regulations. Complete warranty claims and collect from automotive manufactures. Handle customer concerns in a friendly efficient manner. Planned for all areas of the dealership to be up and running for the nightshift operations. Handle correspondence, telephone communication, email, business forms, and reports. Extensive use of networking computer, calculator, telephone, pager,

General Motors Internet site for warranty claims, training, research, recall information, vehicle damage, and plant communication.

July 1988- March 1997 **Assistant Service Manager**
Jim Carter Chevrolet Wausau, Wisconsin
During my tenure there, I held many positions.
Team Service Manager-Parts Counter Person-Service Advisor-Warranty Administrator

Assist management in gaining better team morale, flexibility, and work ethics. Installed flat-rate system in shop that was hourly. Many employees had a hard time in the change. Help team members understand the whole picture and focus on customer satisfaction, while increasing productivity. Took a team not working well together and lagging in productivity. Created an efficient team environment and boosted productivity to 124%. Identify marketing methods to utilize our marketing efforts better. Provide customer assistance with warranty claims and repairs on their vehicles. Control quality of work performed on vehicles. Complete responsibility for wholesale accounts in the parts department. Increased wholesale account 33%. Controlled ordering and stocking of GM parts. Assisted in inventory record keeping. Train service personnel in areas of cashier, warranty, and service advisor. Help move the dealership to a new location. Design and implement productivity control reports for service. Began daily tracking of labor and parts income. Collected warranty claims in excess of 540K yearly. Dealt extensively with manufactures and extended warranty and insurance companies making sure claims were paid on a timely basis. Handled many concerns in a stress-filled environment.

May 1986 August 1987 **Assistant Accountant**
Midstate Airlines Mosinee, Wisconsin
Extensive use of networking computer, data entry, calculator, telephone, copier, and typewriter. Attend and take notes at company meetings and training sessions. Channel all communication to proper company personnel. Perform duties in a professional manner. Complete journal entries both through manual and computer entries. Priced and entered a minimum of 1560 tickets daily. Created financial statements. Billed other airlines for passenger airtime usage.

August 1981- September 1993 **Cook/Waitress**
Chet & Emils Birnamwood, Wisconsin
Lead cook for weddings and restaurant. Monday and Tuesday nights ran restaurant by myself. Budget food and supplies necessary for weddings and restaurant. General cleaning and setup duties.

April 1983- November 1991 **Secretary/Repair**
Schweitzer Tire Center Shawano, Wisconsin
I was the only person in the office. This was a small tire dealership. Assist in the sales and installation of Good Year Tires. Create filing system and maintain system for repair orders, sales orders, and inventory. Update sales manuals with current information. Maintained accounts receivable and accounts payable in a manual ledger and file. Handle all incoming and outgoing mail, statements, interest charges, payments, and flyers. Answer all telephone calls. Utilize general office machines, 10-key punch, typewriter, computer, and copier. Install and repair all sizes of tires on an as needed basis. Created tire displays in showroom.

August 1978- **Office Co-op Program** Shawano, Wisconsin

May 1980 This program was during my high school years. I was able to work in a number of office settings. Shawano High school, Shawano County Court House, Farmers Union Office.

Skills learned; typing forms, reports, letters, courtroom proceedings, dictation, shorthand, proofread documents, communicating with reporters, lawyers, judges, co-workers, office staff, employees, coordinating worksites with potential employees, tracking high school attendance, communicating and functioning in an office setting. Equipment used; switchboard, data operation machine, ten-key punch, adding machine, typewriter, transcription machine, and computer.

Achievements/Memberships

Dean's List Upper Iowa University
Outstanding Business Student Award-Northcentral Technical School
Business Club President-Northcentral Technical School
Sigma Alpha Lambda-Northcentral Technical School
Holstein Association
Delegate-Manitowoc Milk Producers Cooperative 2005-07
Delegate-Cooperative Resources Incorporated 2004-07

Additional Courses/Certificates

Dairy Production and Management-University of Wisconsin, Madison
Wisconsin Department of Public Instruction/Substitute Teacher License
H&R Block Income Tax Certification
Continuing Education Tax Credits
Insurance 21 State Certification
Principles of Banking-American Bankers Association
Conflict Management-University of Wisconsin, Stevens Point
Wellness Lifestyle-University of Wisconsin, Stevens Point
Power Point-NetG
Power Point Advanced-NetG
HTML-NetG
HTML Advanced-NetG
Farm Business Management Certification-WTCS
Administrative Assistant Certification-WTCS
Six Sigma Black Belt Certified-Aveta online
Curriculum and Course Construction-WTCS continuing education
Technical and Adult Education in the WTCS-WTCS continuing education
Educational Evaluation-WTCS continuing education
Educational Diversity-WTCS continuing education
Leadership and Supervision-WTCS continuing education
Six Sigma Black Belt
Educational Assessment-WTCS continuing education

James M. Mackey
5196 Sassafras Drive #210
Fitchburg, WI 53711

608-347-6156 Mobile
jimmackey@aol.com

Experience

Wisconsin Technical College System	**Education Director – Manufacturing and Engineering** • Review and Approval of New and Existing Programs • Management of New and Expanding Occupation Grants • Participation on Workforce Training and Economic Development Subcommittee (WTED) • Co Lead on Manufacturing Skills Standard Certification Program with Department of Workforce Development • Leadership for Advance Manufacturing Solutions Initiative	2006 - Present
Thermo Electron Corporation	**Quality Engineering Manager** • Coordinated New Product Introduction Activities • Drove RCCA Process • Developed Employee Training Process • Implemented 5S • Implemented Supplier Corrective Action Program	2004 - 2006
Thermo Electron Corporation	**Manager of Manufacturing Engineering** • Directed Value Engineering Efforts; Saving $370,000 in 2004 • Department Head Over Two Managers, Two Supervisors • Leadership of 25 Technical Specialists and Engineers • Cradle to Grave Responsibility of Continuing Product Support • Managed Customer Support Help Desk • Oversight of Factory Process Engineering • Implemented Quality System, ISO 9000:2000 • Lead Efforts to Bring Product from Design into Manufacturing	1995 - 2004
Nicolet Instrument Corporation	**Manager of Fabrication Center Manufacturing Engineering** • Leadership of Five Engineers and Technicians. • Consolidated $7M Circuit Board Assembly Operation • Operation was Independent; Becoming Profitable Division • Operating with 30% Savings Over Outside Competition	1986-1995
Nicolet Instrument Corporation	**Manufacturing Engineer** • Product Manufacturing Engineer for Mass Spectroscopy • Developed Work Center and Factory Layouts • Provided Technical Documentation • Health and Safety	1983 - 1986
Trane	**Production Supervisor** • Manufacturer of Commercial Heating And Air Conditioning • Summer Supervisor of Machining Center Operations • Manage Production Schedule • Documentation and Reporting of Quality Issues	1980 - 1982

Experience Continued

School District of Calidonia, MN	**Industrial Education Teacher** • Taught 7th – 9th Technology Education	1979 - 1981
Houston County Extension, MN	**Adult Education** • Facilitated Adult Woodworking Class	1980 - 1981

Education

UW – Stout	**MS Industrial Management**	Dec 1982
UW – Stout	**BS Industrial Education**	May 1979

Additional Training and Certification

Wisconsin Leadership Development Institute	WTCS Leadership Training Completed 2nd of 3 Sessions	2007- Present
ASQ Black Belt - Lean	Six Sigma Quality Improvement	2007
JCIT International	Demand Flow Technology	2004
HJ Steudel and Associates.	Lead Auditor Training	2001
American Management Association	Global Account Management	2001
American Management Association	Finance and Accounting for Non-financial Executives	2001
Hahn Associates	Value Based Negotiating	2000
ILink Global	Import Awareness	2000

Associations and Activities

Optimist International	Newsletter
Asbury United Methodist Church	Community Services Committee
American Society for Quality	Member

References Available on Request

1804 WISCONSIN AVENUE, SUN PRAIRIE, WI 53590 (608) 695-7200

BRENT L. KINDRED

EDUCATION

- University of Wisconsin – Milwaukee (1999) Milwaukee, WI
  Master of Science, Administrative Leadership
- University of Wisconsin – Stout (1996) Menomonie, WI
  Bachelor of Science, Technology Education
- Northest Wisconsin Technical College (1992) Marinette, WI
  Technical Diploma, Welding

PROFESSIONAL EXPERIENCE

Wisconsin Department of Public Instruction 2006 – Present Madison, WI

Wisconsin's state consultant for technology and engineering education programs. Day-to-day activities include providing vision and leadership to local high school program areas of manufacturing, construction, transportation, engineering and others. Also serve as Wisconsin's SkillsUSA State Director and SkillsUSA Wisconsin's corporate member.

Pulaski High School 1997 – 2006 Pulaski, WI

Department Chairperson and Technology Education Teacher– duties performed during my tenure, in addition to teaching, have included some of the following; creative budgeting for the entire department, served on school/district wide committees, established partnerships with numerous area businesses/community members, realigned curriculum and presented it to the school board, played a prominent role in being successfully awarded three grants totaling $105,000, interviewed perspective new staff members, instrumental in planning a new state of the art facility, represented the school at NWTC advisory committee meetings, as well as many others.

LEADERSHIP EXPERIENCE

- SkillsUSA national board of directors, 2010 to the present
- Worked in establishing a State Certified Cooperative Education program in construction, 2008
- Coordinate Wisconsin STEM grants appropriated by legislature, 2008 to the present
- Responsible for disseminating annual Project Lead the Way State Appropriation funding, 2007 - present
- Led a statewide taskforce to establish technology education science equivalency credit, 2007
- Work with administering of local federal Carl Pekins funding,

2006 to the present

- Project Lead the Way State Leader, 2006 to the present
- Pulaski district technology steering committee member, 2005 to 2006
- Pulaski Project Lead the Way (PLTW) supervisor, 2004 to 2006
- Pulaski district technology literacy team member, 2002 to 2006
- SkillsUSA advisor/co-advisor, 1997 to 2006
- New teacher mentor, 1999 to 2006
- Technology education department chairperson, 1999 to 2006
- NWTC welding advisory committee member, 1997 to 2007
- Supervise/mentor student teachers from UW-Stout, 2001 and 2003

Ann M. Westrich
1601 Wimbleton Way
Waunakee, WI 53597
(608) 849-3252
westy@tds.net

CAREER OBJECTIVE: To be an effective and motivated role model and leader. To support and encourage the vision of Career and Technical Education, by raising the bar to the next level of achievement.

EDUCATION:

Bachelor of Science Education (granted December 1989)
University of Wisconsin-Whitewater
Major: Marketing Education
Additional Teaching Certifications:
9-12 *Basic Business*
9-12 *Business Education*
6-12 *Marketing Education*

PROFESSIONAL WORK EXPERIENCE:

09-09 – Present

Wisconsin Technical College System; Madison WI
Education Director, Tech Prep

Job Responsibilities: Responsible for overseeing the operations of the Tech Prep programs at each of the 16 technical colleges in the state. I work closely with each of the Tech Prep Coordinators to ensure they have the tools and information needed to expand their programs and continue providing transitions from secondary to post secondary education. In addition, I administer and approve the Carl D. Perkins Title II Tech Prep Grant submitted by each of the 16 colleges.

Another aspect of my job includes the management of the Carl D. Perkins Reserve Category of funding offered to the 16 technical colleges in the state. The innovative nature of this initiative allows me to assist the colleges with new and emerging programs.

06/06 – 07/09

Wisconsin Department of Public Instruction: Madison, WI
Education Consultant, Work Based Learning & Community Partnerships

Job Responsibilities: Administration of all work based learning programs including all State Certified Skills Standards and Employability Skills. Responsible for all updates to the skills site, as well as the day to day correspondence to the

field. On a regular basis, gather data sets on the schools and programs enrolled, as well as summarize the imbedded reports. I was an active partner in upgrading this program of the past three years. Many new options have been added to make this site more user friendly. As a result of the updates, numbers in the programs have increased. Currently involved in the development of new skills standards in Technology Education and Construction. These new Certified Skills Standards will infuse career clusters as well as programs of study. The charge has been given to update the existing skills standards and I will be in charge of administering this initiative.

In addition, serve as the teams Business Partnership liaison. Developed models for the local programs to use, as well as represent the department with existing business partners when needed. I have served as coordinator for The State Superintendent's Business Friends of Education Awards for the last 8 years. During that time DPI has recognized over 50 business partners.

11/96 – 05/06

Wisconsin Department of Public Instruction; Madison, WI
Marketing Education Consultant, Co-DECA Advisor

Job Responsibilities: Responsible for all correspondence to over 165 Marketing Educators in the state. Responsible for planning, organizing, and implementing all Marketing Education and DECA workshops, conferences, competitions, and curriculum projects. Served as Conference Director for the State DECA conference, which serves over 1,300 students and over 11,000 members statewide. Actively participated in the development of Program Standards for Marketing Education, as well as working with on-going school-to-work initiatives. Spearheaded the charge on increasing participation in the State Certified Skill Standards Program, and openly accepted the leadership and administration of that program. Throughout the last three years, initiated and completed the research, organized and fully implemented a 501 3C foundation for DECA.

11/03 – 05/04

Wisconsin Department of Public Instruction; Madison, WI
Interim Director for Career and Technical Education

Job Responsibilities: Administration of all Career and Technical Education programs, including Youth Options, Carl Perkins, and GED. Worked closely with all Education Consultants, Program Administrators, and Program Assistants. Responsible for all outside communication with many agencies, including the Technical College System, Governors Work-Based Learning Board, and the University System. Served as support staff for the State Superintendent; compiled data, composed speeches, and coordinated awards programs for her.

Continually spread the good news of Career and Technical Education to all stakeholders, as well as infuse The New Wisconsin Promise in that was done.

TEACHING EXPERIENCE:

09/93 – 06/96

Kenosha Bradford High School; Kenosha, WI
Marketing Education Instructor

Served as one of a two teacher Marketing Education Program. Taught all aspects of Marketing Education, Consumer Education, and Entrepreneurship with a full service school based enterprise. Worked with the only Sports Marketing and Leadership program in the State of Wisconsin. Very active with all Kenosha Unified School-to-Work Initiatives, Career Exploration, and Skill Standards Implementation. In addition, coordinated a 20 student internship program.

08/90 – 06/93

Waunakee High School; Waunakee, WI
Marketing Education Instructor

Managed the Marketing Education Program at Waunakee High School teaching all aspects of Marketing and Business to student's grades 8-12. The program also included a 22 student Internship/On-the-job component, as well as a student run store. The school store was in great despair when I started. I walked into a $6,000 deficit. By the end of first year I was able to completely turn things around and create a full service, debt free school based enterprise. I was an active participant in the Tech Prep initiatives and served on their advisory council. I had many occasions to work with area business people and charity organizations.

Julie Fitzgerald Durham

415 N. Baldwin • Madison, WI 53703 • (608)772-3476 • jfitz77@gmail.com

EDUCATION AND TRAINING

Central Michigan University, Mt. Pleasant, MI
B.S. (2005) Social Science, with Minor in Public Affairs, Studies included comparative, international and environmental policy, political science, statistics and economics

University of Wisconsin-Madison, Madison, WI
MPA (2007)Public Affairs, with focus on social welfare policy, studies included microeconomic analysis of public policy, the politics of poverty, quantitative methods for policy, social welfare policy, cost-benefit analysis, program evaluation, STATA and SAS application, non-profit management

PROFESSIONAL EXPERIENCE

University of Wisconsin: Center on Education and Work

Project Manager/Research Associate (October 2007-present)

- Manage student record data collection and analysis for research projects including U.S. Department of Labor Study on Individualized Learning Plans and Midwest STEM initiatives;
- Conduct focus groups with students, parents and teachers on curriculum implementation;
- Research and analyze federal policy implications and opportunities for school funding associated with technological advances and post secondary preparation;
- Provide technical assistance to schools involved in research projects, including conducting webinars and site visits, analyzing school strengths and weaknesses, and managing project communications and buy-in;
- Work with research participants to increase use of data and data driven decision making;
- Present research findings at state and national conferences;
- Write research briefs and reports;
- Manage project goals and objectives, progress and evaluation;
- Assist in writing research grants and proposals for future projects.

State of Wisconsin, Department of Agriculture, Trade and Consumer Protection: Office of the Secretary

Program/Planning Analyst (May 2006 – May 2007)

- Develop and assist in implementation of carbon sequestration programs for agriculture and forestry, including writing contracts, marketing, and providing technical assistance;
- Policy evaluation and development of Wisconsin's bio-based economy initiatives;
- Analyze impact of federal antitrust railroad policy on agriculture and energy;
- Assist in the organization and facilitation of statewide hearings;
- Provide general policy and economic analysis for regional economic development initiatives.

State of Michigan: Department of Education

Policy Intern (Summer 2005)

- Develop best practices for early childhood education programs;
- Assist in interagency collaboration resulting in the redesign of 0-3 year-old early intervention services;
- Review and score State grant applications;
- Assess data collection methods of early intervention service providers.

Kennedy Center for Performing Arts

Members Services Intern (Spring 2001)

- Develop relationships with donors through newsletter, mail and phone solicitations;
- Cultivate new donors, including Circle donors ($1000+);
- Plan fundraising events.

AWARDS/HONORS

Madison's Finest, Cystic Fibrosis Fundraising Event (2009)
Advanced Opportunity Fellow, UW-Madison (2005)
Ronald E. McNair Scholar, Central Michigan University (2004)
Award recipient for research with international impact, Central Michigan University (2005)

MEMBERSHIPS

American Educational Research Association (2007-present).

PROJECTS AND PRESENTATIONS

Phelps, A., Durham J. *An Evaluation of Project Lead the Way.* National Career Academy Coalition Conference, Philadelphia. November, 2009.

Phelps, A., Durham, J. *Engineering the Math Performance Gap,* Spring, 2009.

Phelps, A., Durham, J. *Ensuring College and Career Readiness for Science, Technology, Engineering and Math* Spring, 2009.

Durham, J. *School Engineering Curriculum Evaluation Results* sySTEM Now! Conference, November 2008.

Durham, J. et al. *Evaluating the use and effectiveness of HUD Community Development Block Grant spending to support youth services and economic development in the city of Milwaukee* , Spring, 2007

Fitzgerald, J. *Income Inequality and its Relationship with Globalization and Education.* 2005.

Eric Larsen

Curriculum Vitae

Work Address:
Wisconsin Department of Public Instruction
125 S. Webster St.
Madison, WI 53703
608-2266-2022

Home Address
1603 Washington Ave.
Sauk City, WI 53583
920-373-7002
eric.larsen@dpi.wi.gov

Education:

December, 2006 — Master of Arts in Educational Leadership
Marian University, Fond du Lac, WI
Principal and Director of Instruction Licensure
GPA 3.985

May, 1994 — Bachelor of Science
University of Wisconsin, Madison, WI
Agricultural Education
GPA 3.137

Professional Experience:

April, 2010- present — *Education Consultant-*
Career Pathways and Work-based Learning
Wisconsin Department of Public Instruction

General Duties:

- Provide state leadership to Program of Study initiatives
- Provide state leadership to work based learning programs
  - Employability Skills
  - State Certified Co-ops
  - Other skills certificate programs
- Provide state leadership for career Pathways
- Provide state leadership for the Wisconsin Career pathways website
- Provide state leadership for Education for Employment
- Provide state leadership for Carl Perkins grant supervision

December 2007- June 08, May 09- April 2010 — *Interim Director*
New York Agriculture Outreach and Education
Program leader for the following organizations:

- NY Agriculture in the Classroom (AITC)
- NY Association of FFA

- NY Association of Agriculture Teachers (NYAAE)
- NY Agriculture Education Leadership Council (NYAELC)

Cornell University
Ithaca, NY

General Duties:

- Provide department leadership to four professional employees
- Implemented and follow-up with weekly office work schedule and staff meetings
- Collaborate with employees to make decisions on and evaluate department programming
- Facilitate $400,000 department budget
- Work closely with the Boards of FFA Governance, Leadership and Training Foundation, NYAAE, and the NYAELC
- Collaborate with the agents of the NY Department of Ag and Markets
- Work closely with the agents of the NY State Education Department in policy implementation.
- Work closely with New York Agricultural Career Pathways/ Tech Prep to plan conferences and workshops for teachers.
- Foster relationships with key partners including Universities, Community Colleges, Agribusiness, Farm Bureau, and Agricultural Foundations.

Agriculture in the Classroom:

Provide support and vision to the program leader to:

- Coordinate the 2008 Ag Literacy Day Program for the book *Sugarbush Spring* to over 60,000 elementary students, providing 1,500 pints of maple syrup and promoting the New York State maple industry.
- Coordinate the 2010 Ag Literacy Week for the book *The Tree Farmer* to over 75,000 elementary students exploring the New York Timber industry.
- Re-design MOO Country at the New York State Fair, investing over $10,000 in quality dairy promotion to over 100,000 fair goers.
- Develop ideas for new materials for *Kids Growing Food Program* including videos, activity books, additional grants, and promotional materials.
- Develop lesson plans and instructional videos for Science of Learning Exploration curriculum including instructional videos for elementary students
- Help to train teachers about the Food, Land, and People K-12 agriculture curriculum

- Helped facilitate monthly committee meetings

New York FFA :
Provide support and vision to the program leader to:

- Coordinated three state FFA conventions for 86 FFA chapters with over 1,000 members, advisors, and guests in attendance in three different locations.
- Coordinated three national officer tours across New York, working with 47 schools and over 3,000 FFA members.
- Facilitated a Supervised Agricultural Experience (SAE) grant program to improve entrepreneurial SAEs across New York. We have had 70 applicants and 22 winners of $500 grants
- Facilitate a New Agriculture Program grant program for all new agriculture departments across New York State, with 12 grants at $500 each.
- Wrote and was awarded two leadership training grants for the New York State FFA Officers totaling over $40,000.
- Facilitated three sub-state speaking contests for over 500 FFA members
- Implemented a new, eight part National FFA Officer Selection Process
- Coordinated and received a three year, seven school, USDA grant for $161,000 to promote Renewable Energy Education and develop curriculum and materials for agricultural education programs.

Professional Development:
Provided support and vision to the program specialist to:

- Planned and ran 2008 NYAAE State Professional Development Conference
    - 103 participants
    - 23 presenters
    - Geneva Field Station coordination
    - Coordinated annual NYAAE Award banquet for 130 attendees
- Planned and ran 2009 NYAAE State Professional Development Conference
    - 93 participants
    - 36 presenters
    - SUNY Morrisville renewable Energy Training Center partner coordination
    - Coordinated annual NYAAE Award banquet for 130 attendees

- Coordinated a State Education Department Ag Education Summit with 15 presenters in four different workshops
- Work collaboratively to provide leadership and support to NY agricultural education programs through phone calls, and email support
- Provided one-on-one assistance to teachers and help enhance the quality of their programs by providing course and curriculum recommendations, program development, and classroom resources with over 200 school program visits.

Agriculture Education Leadership Council:
Provide leadership and support to the committee members to:

- Keep minutes of meetings
- Email meeting notices to all members
- Provide administrative support to all members whenever needed
- Help facilitate the strategic plan of New York Agriculture Education

October 1, 2007-Present

Senior Professional Development Specialist
Teacher Services Director, New York Agriculture Education
New York State FFA Advisor
Cornell University
Ithaca, New York

General Duties:

- Visited 118 diverse New York agriculture programs in rural, suburban, and urban settings. Met with teachers, administrators and guidance personnel to discuss concerns and find solutions to problems developing, implementing, and evaluating their programs.
- Presented three New Teacher Professional Development Workshops for 29 first and second year agriculture teachers. Provide mentoring program for each new teacher specific to need.
- Evaluate Agricultural Education programs and provide leadership of the NY State CTE Endorsement program including curriculum assessment and standard cross-walking; evaluation methods; student assessments; and evaluation of articulation agreements.
- Presented professional development on FFA state degrees, American degrees and proficiency awards
- Coordinated eight rounds of professional development at two Made For Excellence conferences

- Coordinated a state wide committee which implemented Agriculture Education curriculum offered through the CAERT company
- Coordinated funding to crosswalk NY State Education Standards to CAERT Curriculum
- Created a national database of funding options for 32 state agriculture education programs
- Compiled the first online historical list of New York FFA accomplishments covering the past 82 years and incorporated many documents into one database of information.
- Attended two National Agriculture Education Inservices
- Attended three National Association of Supervisors of Agricultural Education Conferences
- Attended three National Association of Agricultural Educators Conferences
- Attended three National Association of Career and Technical Educators Conferences
- Frequently network with other state leaders in agriculture education

July15, 1998-
September 30, 2007

Agriculture Instructor
Oconto Falls High School
Oconto Falls, WI

General Duties:

- Instructor of Agriculture/ FFA Advisor grades 7-12
- Department Chairman- Three person Agriculture Department
- Teach Distance Learning over the TRITON network to five Northeast Wisconsin Schools without Agriculture programs
- Faculty Senate
- Senior Class Advisor, Graduation Advisor, Athletics Statistician
- Revitalized curriculum to16 semester-long Agriculture courses meeting both state agriculture and science standards, two middle school exploratory courses, and a work co-op program
- Created Career Pathways for Plant, Animal, Food Products and Processing, Agribusiness, and Natural Resource Systems.
- Collaborated with Science Department to create both Biotechnology and Genetics courses
- Member of the Agricultural Advisory Board of Oconto Falls High School which includes veterinarians, foresters, dairy producers, florists, etc.

- Worked closely to develop teaching partnerships with elementary teachers

Courses Created and Taught:

- Wildlife and Forestry
- Aquaculture and Water Ecology
- Outdoor Recreation
- Leadership
- Food Science
- Food Processing
- Large Animal Science
- Horse Care
- Pet Care
- Vet Science
- Horticulture
- Greenhouse Management
- Floriculture and Landscaping
- Exploring Agriscience
- Biotechnology
- Genetics
- 7th grade Exploratory
- 8th grade Exploratory
- Agribusiness Skills Co-op

Leadership Experiences:

- High School Office Administration Assistant– scheduling, discipline, attendance, supervision, and administrative computer training
- Summer School Principal and Assistant Coordinator
- Mentored four new OFHS teachers and three agriculture student teachers
- Chaired the six teacher Oconto/ Marinette County Agriculture Education Teacher Group
- Oconto County Fair Youth Leader– Dairy and Livestock
- Wrote several grants for $20,000 in equipment for our classrooms
- Chaired our Agriculture Facility Building Committee, overseeing a $300,000 department remodel for new classroom, and food science and animal labs
- Member of the District Building committee, which helped pass a $20 million referendum for four district school building remodeling projects
- Facilitated a $60,000 Agriculture and FFA budget for 16 courses and 145 FFA members.
- WI State FFA Vice President– 1988-89

Professional Experience:

- State FFA Career Development Events Committee- 2003-07
- State Environmental Science Conference Presenter, Wetland Biology- 2003
- State Agricultural Education College Graduation Standards Committee- 2003
- FFA National Finalists Judge, Indianapolis- 2003, 2006
- National Chairman, FFA National Finalists Judging, Indianapolis- 2007
- National Eastern Region Representative, FFA Award and Career Development Event 5-year Evaluation Committee- 2008-2011
- National Association of Farmer Cooperatives Conference, Hawaii- 2003
- TRITON Academy Presenter Adult Education– Biotechnology and GPS/Geocaching Professional Development Courses- 2005-07
- California Agriculture Teachers Convention Presenter- Translating Student Work Programs into National Results Professional Development Workshop- 2006
- Georgia Agriculture Teachers Convention Presenter Translating Student Work Programs into National Results Professional Development Workshop- 2008
- Tennessee Agriculture Teachers Convention Presenter Translating Student Work Programs into National Results Professional Development Workshop- 2008, 2009, 2010
- State Chaperone and Tour Organizer- Wisconsin Washington DC Leadership Conference Busses- 1997-98, 2000-07
- Pioneer National Biotechnology Conference- Des Moines, IA- 2002
- DPI Agricultural Education Middle School Instructors Guide creation team-2001
- Wisconsin FFA Executive Board- 2001-02, 2005-06
- Wisconsin Association of Agriculture Educators (WAAE) State Teachers Annual Conference- 1996-04, 2007
- National Proficiency Award Selection Committee- 1999-07
- Wisconsin FFA Proficiency Award Selection Committee- 1998-07
- Wisconsin FFA Mentoring Committee-2002-06
- Speaking Contest and Forensics Judge- 1997-07
- Created a member exchange program with both the Ola and Springdale, Arkansas FFA chapters- 2004-07

Student Achievements:

- National Star Over America– FFA's Highest Student Award- 2005
- National Star Over America Finalist- 2007
- Three National Proficiency winners
- Ten National Proficiency Finalists

- Twenty-two National FFA Scholarship Winners
- Five-time nationally ranked Gold FFA chapter
- Nine Wisconsin FFA Star finalists, Two Stars Over Wisconsin
- Two State FFA Officers
- Two National FFA Officer candidates
- Thirty-six American FFA Degrees
- Thirty-nine State FFA Degrees
- Students performed hundreds of hours of community service each year in projects such as Earth Day, Arbor Day, Pumpkin patrol, garbage clean-up, and stream clean-up
- Eleven Kohl Excellence Scholars and one National Coca Cola Scholar $20,000 winner from my FFA.

May, 2006-
April, 2007

Board of Education Member
Oconto Unified School District
Oconto, WI

- Board of Education member, Board Vice President
- Budget and Finance Committee, Curriculum and Policy Committee
- Wisconsin Association of School Boards Convention, Presenter

May, 2005-
September, 2007

Steering Committee Member
Marinette/ Oconto/ Langlade School-to Work Consortium

- Helped create consortium
- Treasurer- facilitated a $35,000 budget
- OFHS School Youth Apprenticeship Coordinator
- Grant writing for consortium

July, 1997-
July, 1998

Agriculture Instructor
Reedsburg Middle/ High School

- Instructor of Agriculture/ FFA Advisor

May, 1996-
July, 1997

Agriculture Instructor
Pittsville High School

- Instructor of Agriculture/ FFA Advisor

Professional Awards:

National Agriscience Teacher of the Year Finalist– 2004
Wisconsin Agriscience Teacher of the Year– 2004
Kohl FellowshipTeacher Award– 2004
WAAE Outstanding Young Member Finalist, 2001
WAAE Outstanding Agriculture Program– 2003, 2005
WI FFA Alumni Agriculture Educator of the Year– 2006
Honorary State FFA Degree– 2006

Professional Associations:

National Association of Agricultural Educators	1996- present
National FFA CDE/ SAE Review Panel	2008-present
National FFA Nominating Committee	
Adult Consultant	2009- present
Association of Career and Technical Education	1996- present
National Assoc. –Supervisors of Ag Education	2007- present
NY Association of Agricultural Educators	2007- present
WI Association of Agricultural Educators	1996-2008
New York State Agriculture Society-	2007- present
National FFA Alumni- Lifetime Member	1987-present

Project Narrative

ADDITIONAL INFORMATION

Attachment 1:
Title: **Attachments** Pages: **220** Uploaded File: **Attachments.pdf**

Attachment A

Wisconsin's Workforce Development System

RESOURCE MIX

Wisconsin's workforce development system is largely funded with federal dollars, which may indicate a need to grow the state's share of investment.

Much of the funding for the programs on the map is federal; in fact, Wisconsin relies on the federal government for 83% of its funding (Chart 3). Wisconsin's reliance on federal funding is a concern because federal dollars are typically earmarked to serve narrowly defined populations and tend to have more stringent regulations and restrictions attached to their use. With four out of every five dollars in Wisconsin's workforce development system originating from federal agencies, the dominance of federal support may prove to be an obstacle to reform.

Funding from the State of Wisconsin amounts to 17% of all employment and training dollars tracked by the resource map. By comparison, Wisconsin's neighboring state of Illinois recorded a 31% state share of support for workforce development services using a similar methodology, while Minnesota registered a 33% state share of support (Table 2). Though not a perfect measure due to the lack of data for all 50 states, such comparisons do reveal a Wisconsin system that seems to draws less from state coffers than other states. This analysis, though limited in scope, does suggest room for the state to grow its investment in workforce development.

Chart 3: Origins of workforce development funding in Wisconsin

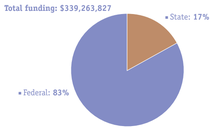


Table 2: Origins of workforce development funding, ranked by share of state support

	Federal	State
New York, FY03	55%	45%
Massachusetts, FY06	62%	38%
Minnesota, FY02	67%	33%
Tennessee, FY03	68%	32%
Illinois, FY02	69%	31%
Texas, FY02	71%	29%
Ohio, FY07	76%	24%
Wisconsin, FY08	83%	17%

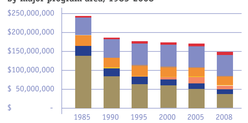
*FY stands for "Fiscal Year" and in this table indicates the year of the source data

RESOURCE TRENDS (cont. on next page)

A steep drop in federal funds allocated to workforce development signals the need for regions to shift their attention to securing alternative public and private dollars to finance their training needs.

The majority of funds identified in the resource map come from federal formula grants – dollars that are allocated to states based on criteria set by law. Chart 4 shows an inflation-adjusted view of the decline in these dollars for the state's eight largest federally funded workforce development programs.[1] In total, federal funding for these programs decreased 39% from 1985 to 2008. Most of that decline can be attributed to a 73% drop in funding for the Workforce Investment Act (WIA) and its predecessor, the Job Training Partnership Act (JTPA).[2] The 23-year slide in federal support of workforce development is also attributable to a 51% reduction in Wagner-Peyser Job Service funding and a 22% drop in Carl Perkins Vocational and Technical Education funding levels.

Chart 4: Federal funding for workforce development, by major program area, 1985-2008*



*Adjusted for inflation using the 2007 Consumer Price Index – Research Series

Chart 5: Federal TANF funding allocated to Wisconsin's W-2 program 2000-2008*

*Adjusted for inflation using the 2007 Consumer Price Index – Research Series. The dollar amounts reflected are for "W-2 agency contracts" which includes cash payments to participants in subsidized employment, local administrative costs and the costs of training and employment services.

RESOURCE TRENDS (cont.)

Due to lack of historical data, federal Temporary Assistance for Needy Families (TANF) funding for Wisconsin's W-2 program is not included in Chart 4. W-2 – the state's largest workforce development program accounting for 27% of all funding identified on the resource map – provides cash benefits and employment and training services to income-qualified working parents throughout Wisconsin. W-2 has retained its status as the state's largest workforce development program despite a 58% reduction in funds allocated to the program by the state between 2000 and 2008 (Chart 5). Although there has been a 15% reduction in W-2 caseloads during this period, funding reductions for W-2 can primarily be explained by the fact that the state has chosen to shift TANF dollars toward childcare subsidies for working families and away from W-2 benefits and services.[3]

Due to decreases in federal funding and a shift in state priorities away from W-2, regions throughout the state are expected to increasingly turn to alternative funding sources to finance their training needs. These "alternative" sources, which are not included on the map, are typically awarded directly to local and regional entities on a competitive basis and include grant dollars from local governments and foundations, contributions from employers, and competitive federal and state grants. Table 3 lists a few such sources being tapped in southeastern Wisconsin.

Table 3: Direct awards for workforce development in southeastern Wisconsin*

Program	Funding	Funding source	Date	Grantee
WIRED initiative	$5,160,000	Federal	2008-09	Regional Workforce Alliance
Futures First	$4,800,000	Federal	2007-09	Milwaukee Public Schools
Community-Based Job Training – Advanced Mfg.	$1,999,999	Federal	2007-09	Milwaukee Area Technical College
Prison re-entry program	$1,866,765	Federal	2005-09	World of Hope Ministries
Prison-to-work program	$1,588,520	Foundation, State	2006-09	The New Hope Project
Earn & Learn Summer Youth Internship Program	$900,000	City, Federal, State, Foundation	2008	Milwaukee Area Workforce Investment Board
Community Economic Development (CED) Program	$677,000	Federal	2007-2012	Northwest Side CDC
United Way Job Training Initiative	$631,000	Private	2007	Selected job-training agencies
Transition funding	$600,000	Foundation	2008	Milwaukee Area Workforce Investment
Tax Increment Financing for North End	$500,000	City of Milwaukee	2008	To be determined
YouthBuild	$404,131	Federal	2007-2010	City of Milwaukee Housing Authority
Ex-offender pilot program	$400,000	Federal, State	2008	Selected job-training agencies
ROSS (Resident Opportunities and Self-Sufficiency)	$350,000	Federal	2008	City of Milwaukee Housing Authority
Community Development Block Grant	$325,000	City of Milwaukee, Federal	2008	Selected job-training agencies

*This is not a comprehensive list of awards and most of the listed programs receive additional funds from other partners.

In an environment of declining federal revenue and increased competition for training resources, it is imperative that regions fully engage employers and the philanthropic community to forge a new workforce development funding model. Currently, foundation and employer support of workforce development in Wisconsin is a multi-million dollar enterprise. Despite this fact, a recent survey found that only 13% of foundations granted money for specific job training programs.[4] In terms of employer activity, another survey found that 44% of Wisconsin CEOs reported spending less than 3% of their payroll on employee training.[5] In light of looming labor and skill shortages, additional employer and foundation engagement and investment in training programs will be critical.

RESOURCE GAP

Securing additional "flexible" funding will likely be necessary to meet training demand.

A recent study of workforce development spending in southeastern Wisconsin found only 10% of state and federal dollars flowing into the region were flexible enough to be used to support job-specific training needs.[6] Applying this ratio to the entire state reveals an estimated $34 million available annually for job-specific training – a figure that falls well short of the $120 million that would be needed to train enough workers to fill each one of the state's 64,840 projected job openings that require some form of training.[7] In short, securing additional flexible funding will likely be necessary to meet labor demand in industries that require some form of training.

Endnotes

[1] This chart is an updated version of a chart which first appeared in a report entitled "Declining Federal Support for Wisconsin Workforce Development," released in July 2004 by the Center on Wisconsin Strategy. Due to a lack of historical data dating back to 1985, Chart 4 does not include AFDC and TANF federal dollars used to support Wisconsin's W-2 program.

[2] Wisconsin's WIA allocation will increase in 2009 to $47.7 million, which will bring WIA funding back within reach of 2005 levels.

[3] "The Allocation of TANF and Childcare funding in Wisconsin," Brookings Institution, August 2006

[4] "GROW Report: Regional Workforce Funding," Urban Strategies, November 2007.

[5] "WMC Economic Outlook Survey," Wisconsin Manufacturers and Commerce, June 2008.

[6] "GROW Report on Milwaukee 7 Regional Workforce Funding," Urban Strategies, November 2007.

[7] The $120 million figure is an estimate. It assumes a 50/50 cost-sharing partnership with employers and is based on a per-worker training cost of $3,700 which is the average cost to graduate an adult from the WIA program in 2006. For comparison, this estimate is only slightly higher than the average per-worker training cost of $3,200 budgeted for a new Milwaukee Area Technical College program targeted at training workers for advanced manufacturing jobs.

SEPTEMBER 2008

WISCONSIN'S WORKFORCE DEVELOPMENT SYSTEM

A graphical guide to employment and training resources in Wisconsin

On the reverse side we present a resource map of Wisconsin's workforce development system that is intended to graphically bridge together state and federal funding specifically devoted to employment and training programs administered by the State of Wisconsin. These programs encompass a broad spectrum of publicly funded workforce development services from on-the-job-training to job search and placement to help with overcoming transportation and language barriers. The purpose of the map is to give policymakers and service providers a clear picture of the state's current offerings and to serve as a guide in ongoing reform efforts.

What can we learn from the map?

The following are key findings from Wisconsin's first-ever workforce development resource mapping effort:

- Organization - Wisconsin's many workforce development programs may not be organized in the most effective manner.
- Need - Demographic and economic shifts are projected to increase the need for employment and training services.
- Resource mix - Wisconsin's workforce development system is largely funded with federal dollars, which may indicate a need to grow the state's share of investment.
- Resource trends – A steep drop in federal funds allocated to workforce development signals the need for regions to shift their attention to securing alternative public and private dollars to finance their training needs.
- Resource gap - Securing additional "flexible" funding will likely be necessary to meet training demand.

Research by:

Public Policy Forum
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Funded by:

State of Wisconsin Department of Workforce Development
www.dwd.state.wi.us

The Joyce Foundation
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ORGANIZATION

Wisconsin's many workforce development programs may not be organized in the most effective manner.

At first glance, the resource map on the back of this report appears to depict a workforce development system that is both broad and fragmented. The map identifies $339 million in state and federal dollars that will be spent in fiscal year 2008 to address the employment and training needs of Wisconsin's workforce and charts these dollars as they flow through six federal agencies, eight state administrative departments and 36 different programs. However, despite the involvement of so many state administrative departments, the vast majority of funding is concentrated in just two departments – the Department of Workforce Development and the newly created Department of Children and Families (Table 1). A question that may merit further study is the degree to which current programs could be further consolidated under fewer administrative departments to achieve potentially improved service delivery.

Table 1: Workforce development funding by state administrative department

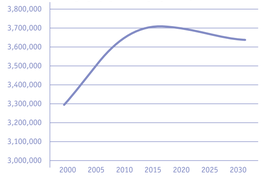
	Number of programs	Total funding for Fiscal Year 2008	% of total funding
Department of Workforce Development	12	$143,273,663	42%
Department of Children and Families	2	$96,716,100	29%
Wisconsin Technical College System	5	$34,475,693	10%
Department of Health Services	6	$29,057,786	9%
Department of Corrections	2	$20,845,200	6%
Department of Public Instruction	1	$9,803,101	3%
Department of Commerce	5	$3,974,784	1%
Department of Veterans Affairs	3	$1,117,500	0.3%
Total	**36**	**$339,263,827**	

NEED

Demographic and economic shifts are projected to increase the need for employment and training services.

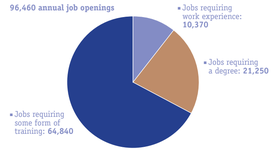
Wisconsin faces a duel imperative over the next two decades to simultaneously increase the supply and skills of its workforce. Though not particular to Wisconsin, the state's labor force is expected to experience a decline in the number of participants due to the impending wave of retirements from the aging of the baby boom generation. According to the Wisconsin Department of Administration, the projected working age population in the state (ages 18-64) will peak in 2015 at 3.70 million and then decline to 3.63 million by 2030 (Chart 1). A constricting labor supply is a concern because economic growth is inhibited without a steady supply of workers.

Chart 1: Working age population projection, 2000-2030



Source: "Wisconsin Population 2030," Wisconsin Department of Administration, March 2004.

Chart 2: Projected annual number of job openings in Wisconsin between 2006 and 2016, by typical education or training path



Source: "Wisconsin Occupational Projections, 2006-2016," Wisconsin Department of Workforce Development Office of Economic Advisors.

Over the next decade, Wisconsin also will have to address a shortage of skilled workers. In large part, these workers will need specific job skills, not formal degrees. Of the 96,460 projected annual job openings between 2006 and 2016 (Chart 2), those jobs that will require some form of "training" make up 67% of all openings. As will be the case in all parts of the world, Wisconsin will need to bridge the gap between underskilled jobseekers and employers in need of more qualified workers.

PR/Award # V051C100009

A SUMMARY OF WORKFORCE DEVELOPMENT PROGRAMS IN WISCONSIN

Public Policy Forum — moving the region forward

State Bar of Wisconsin Department of Workforce Development

The Joyce Foundation

Program name	Workforce Investment Act (WIA)	Wagner-Peyser Labor Exchange (Job Service)	Veterans Employment and Training Programs	Trade Adjustment Assistance (TAA) and NAFTA-TAA	Workforce Information Grants	Work Opportunity Tax Credit	Children First Program	Vocational Rehabilitation Act	Youth Apprenticeship	Wisconsin Employment Transportation Assistance Program [5]	Boys and Girls Clubs	Refugee Employment and Training
Federal Agency	U.S. Department of Labor							U.S. Department of Education		U.S. Department of Transportation	U.S. Department of Health and Human Services	
State Agency	Department of Workforce Development											
Federal funding [1]	$37,086,620	$13,108,238	$2,954,000	$9,680,883	$605,539	$255,840	$0	$55,705,100	$0	$3,238,049	$350,000	$1,594,194
State funding [2]	$0	$0	$0	$0	$0	$0	$1,140,000	$15,156,500	$1,512,600	$886,100	$0	$0
Total funding	$37,086,620	$13,108,238	$2,954,000	$9,680,883	$605,539	$255,840	$1,140,000	$70,861,600	$1,512,600	$4,124,149	$350,000	$1,594,194
Service providers	Workforce Development Boards, Job Centers	Job Centers	Job Centers	Job Centers	Department of Workforce Development	Employers	W-2 agencies	Contractors	High schools, Tech schools, Chambers, CESAs	Community-based organizations, local transit system	Boys and Girls Clubs	Community-based organizations
Services												
Job training	■			■			■	■	■			■
Job search	■	■	■	■			■	■				
Job placement	■	■	■				■	■				
Work supports	■			■				■		■		
Work readiness	■							■			■	
Basic education	■											■
Other services	Career planning	Online job search tool (JobNet)	Case management		Workforce information (WORKnet)	Federal income tax credit for employers	Case management	Case management		Job retention		
Target customer	Adults; dislocated workers; youth	Job seekers and employers	Veterans	Individuals displaced by industry changes due to foreign imports	Universal	Employers that hire individuals of certain target groups	Non-custodial parents (NCP's) behind on child support payments	Individuals with disabilities	High school students	Low-income workers	Youth, ages 6-18, eligible to receive TANF	Refugees
Number of participants [3]	16,615 WIA participants in 2006 [4]	106,467 registered to receive program services	11,500 veterans receiving service	1,933 program exiters in 2006	270,293 visits to WORKnet website in 2006	1,248 employers	4,000 NCP's served annually	30,000 individuals served with 3,167 successful rehabilitations	3,900 students trained in the 2005-07 biennium	Services provided by 17 tranportation agencies	Services provided at 32 club sites	900 refugees gained employment in the 2005-07 biennium

Program name	Wisconsin Works (W-2)	T.E.A.C.H. and R.E.W.A.R.D	Wisconsin Pathways to Independence	Brighter Futures Initiative	Community Services Block Grant	FoodShare Employment and Training (FSET)	AmeriCorps	Wisconsin Senior Employment Program [6]	Wisconsin Fresh Start	Minority Business Employees' Skills Training	Rural Business Employees' Skills Training	Business Employees' Skills Training	Customized Labor Training
Federal Agency			U.S. Department of Agriculture			Corporation for National and Community Service		U.S. Department of Labor					
State Agency	Department of Children and Families		Department of Health Services						Department of Commerce				
Federal funding [1]	$93,241,100	$3,475,000	$7,575,600	$1,697,000	$7,911,700	$1,044,462	$6,420,154	$2,212,702	$687,000	$0	$0	$0	$0
State funding [2]	$0	$0	$296,800	$1,749,500	$0	$149,868	$0	$0	$330,000	$254,200	$606,500	$50,000	$2,047,084
Total funding	$93,241,100	$3,475,000	$7,872,400	$3,446,500	$7,911,700	$1,194,330	$6,420,154	$2,212,702	$1,017,000	$254,200	$606,500	$50,000	$2,047,084
Service providers	W-2 agency contractors	Wisconsin Early Childhood Association	Potentially any entity delivering employment services to individuals with disabilities	County government, tribal and non-profit contractors	Wisconsin Community Action Agencies	County government, tribal and W-2 agency contractors	Community-based organizations	Community-based organizations	Community-based organizations	Employers	Employers	Employers	Employers
Services													
Job training	■		■			■	■	■	■	■	■	■	■
Job search	■		■			■		■					
Job placement	■		■					■					
Work supports	■	■	■		■								
Work readiness	■		■	■	■	■	■		■				
Basic education	■		■			■			■				
Other services		Job retention, career advancement	Strategic planning effort to remove barriers to employment for those with disabilities										
Target customer	Cash assistance recipients	Employed child care workers	Individuals with disabilities	At-risk youth in ten counties	Low-income individuals including the unemployed, homeless, migrants and elderly	Food Stamp recipients	Young adults, 18-24 years of age	Low-income, unemployed individuals 55 years and older	At-risk young adults, 16-24 years of age	Minority incumbent workers	Rural incumbent workers	Incumbent workers	Incumbent workers
Number of participants [3]	19,289 W-2 paticipants	2,148 stipends awarded	136,621 Wisconsin residents currently receiving SSI benefits are targeted by this program	BFI collaborative projects serve 100,000 anually	404,297 program participants in 2005	4,242 enrolled as of April 2008	1,093 Ameri-Corps members for the 2007-08 program year	309 funded positions in 2006	200 participants	3 employers awarded grants between SFY02 and SFY05	27 employers awarded grants between SFY02 and SFY05	48 employers awarded grants between SFY02 and SFY05	142 employers awarded grants between SFY02 and SFY05

Program name	Community Corrections Employment Program	Badger State Industries [7]	Retraining Grant	Veterans Assistance Program	Troops-to-Teachers	Carl Perkins Vocational and Technical Education	Carl Perkins Vocational and Technical Education	Carl Perkins Tech Prep	Adult Education & Family Literacy	Workforce Advancement Training Grants	General Purpose Revenue Grants [8]	Total
Federal Agency					U.S. Department of Education							
State Agency	Department of Corrections		Department of Veterans Affairs			Department of Public Instruction	Wisconsin Technical College System					
Federal funding [1]	$0	$0	$0	$0	$108,600	$9,803,101	$12,300,457	$2,106,802	$7,887,634	$0	$0	$281,049,775
State funding [2]	$691,800	$20,153,400	$210,000	$798,900	$0	$0	$0	$0	$0	$2,000,000	$10,180,800	$58,214,052
Total funding	$691,800	$20,153,400	$210,000	$798,900	$108,600	$9,803,101	$12,300,457	$2,106,802	$7,887,634	$2,000,000	$10,180,800	$339,263,827
Service providers	Community-based organizations	Correctional institutions	State employees	Veterans Assistance Centers	State employees	School districts	Wisconsin technical colleges	Wisconsin technical colleges	Wisconsin technical colleges, community-based organizations	Wisconsin technical colleges	Wisconsin technical colleges	
Services												
Job training	■	■	■	■	■	■	■	■		■	■	
Job search											■	
Job placement	■										■	
Work supports	■											
Work readiness				■							■	
Basic education									■		■	
Other services											Case management	
Target customer	Ex-inmates released on parole	Inmates	Unemployed or under-employed veterans enrolled in a training program	Homeless veterans and those at risk of becoming homeless	Veterans	Secondary students, 7th to 12th grade	Technical college students	High school students	Adults without a high-school diploma, inmates	Incumbent workers	See footnote #8	
Number of participants [3]	175 open program slots	471 inmate employees during SFY2006	87 grant recipients in the 2005-07 biennium	4,803 assisted in the 2005-07 biennium	91 participants hired since 1994	38,120 11th and 12th grade participants	20,480 participants	19,296 participants	27,895 participants	Helped 90 employers train 12,000 workers in the 2005-07 biennium	19,558 participants	

Services — **Each service category is inclusive of the following workforce development activities**

- ■ Job training — Occupational skills training, on-the-job training, apprenticeship, and work experience.
- ■ Job search — Provide clients with job listings, access to on-line job banks, resume support, job fairs, assistance with job applications.
- ■ Job placement — Build relationships with employers to place clients into jobs. Includes post-placement follow-up.
- ■ Work supports — Assistance other than academic or skills training to help clients overcome barriers to employment. Services include transportation and wage subsidies.
- ■ Work readiness — Assistance with interviewing, grooming, attendance, punctuality and other "soft skills."
- ■ Basic education — ESL instruction, GED/HSED preparation, adult basic education including reading, writing, math and other required employment skills.

*Service definitions from "The Milwaukee Workforce Development Landscape Report", UWM Center for Workforce Development, January 2006

Footnotes

[1] Federal funding amounts are for Federal Fiscal Year 2008 (FFY08), which runs from October 1, 2007 to September 30, 2008. In certain cases where FFY2008 data were not available, federal program year 2007 data were used. FPY2007 runs from July 1, 2007 to June 30, 2008.

[2] State funding amounts are for State Fiscal Year 2008 (SFY08), which runs from July 1, 2007 to June 30, 2008. State revenue figures include General Purpose Revenue (GPR), Segregated Revenue (SEG) and Program Revenue (PR).

[3] "Number of participants" is an annual figure for 2007 unless otherwise noted. Great care should be used in interpreting data in this category. Participant data should not be used to produce cost efficiency comparisons between programs because data in this field varys greatly by source and type.

[4] The WIA number of participants listed does not reflect the actual total number of people having been served by Title I funds. This figure only reflects the number of participants for purposes of performance measure reporting in a snap-shot-in-time using Department of Labor requisements.

[5] WETAP program administered and funding in partnership with the Wisconsin Department of Transportation.

[6] Funding data for the Wisconsin Senior Employment Program are FPY2006.

[7] Badger State Industries is funded with self-generated program (SEG) revenue. Funding data shown is SFY07.

[8] "General Purpose Revenue grants" are made up of seven separate competitive grant programs: Basic Skills, Adult Literacy, Workplace Adult Basic Education, Health Care Education Grants, Minority Student Participation and Retention Grants, Transition Services for Individuals with Disabilities Grants, and School-to-Work for At-Risk Youth.

Notes on methodology and what's excluded from the matrix

Data in this report come from communication with State of Wisconsin department staff, annual state program reports, Legislative Audit Bureau audit statements, Legislative Fiscal Bureau budget informational papers, previously published research and various federal reporting documents. Unless otherwise indicated, the funding amounts are for Fiscal Year 2008. These are budgeted figures and not actual expenditures. All funding figures include administrative costs. The matrix includes public (federal and state) funding streams only and does not include "leveraged" contributions from employers, foundations or local governments. The purposed of the matrix is to graphically map the flow of competitive and formula federal grants as they pass through various state administrative departments. Therefore, federal grants made directly to local agencies are not included. Community Development Block Grant and Social Services Block Grant programs were not included due to the limited role they play in funding workforce development. Funding for Job Corps and the National Farmworker Jobs Program were not included because funding flows directly to local service providers from the U.S. Department of Labor, bypassing state oversight. Financial aid (Pell Grants), child care subsidies and unemployment insurance payments are not included. While each program certainly addresses workforce issues, direct cash payments were not generally included in this map as a workforce development activity.

Credits

The template for the resource map was adapted from similar projects in Illinois by the Chicago Jobs Council, in New York by the Center for an Urban Future, and in Texas by the Center for Public Policy Priorities. This report was supported by The Joyce Foundation and the Wisconsin Department of Workforce Development. The report was written by Ryan Horton, Senior Researcher at the Public Policy Forum - a Milwaukee, WI based non-partisan think tank. The author wishes to extend a special "thank you" to Linda Preyss at DWD for her able assistance.

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Attachment B

2008 Wisconsin Next Generation Manufacturing Study

Wisconsin Next Generation Manufacturing Survey Data Report

Prepared by the Manufacturing Performance Institute

November 2008

Introduction

The Wisconsin Next Generation Manufacturing Survey was developed in order to identify and measure key performance and best practice strategies among Wisconsin's manufacturers. Wisconsin's manufacturing base –and its supporting firms and infrastructure – must change dramatically to remain competitive in a global marketplace. The Wisconsin Next Generation Manufacturing Survey provides a framework for understanding Next Generation Manufacturing (NGM) by identifying the competitive performances and best management practices required to achieve world-class manufacturing status in the 21st Century.

The Wisconsin Next Generation Manufacturing Survey was conducted by The Manufacturing Performance Institute, an independent national research firm, for the Wisconsin Manufacturing Extension Partnership (WMEP) and its partners: Milwaukee 7, the Wisconsin Department of Commerce, and Wisconsin Manufacturing & Commerce.

This *Wisconsin Next Generation Manufacturing Survey Data Report* presents the overall findings from the survey as well as cross-tabulations of the survey data by:

- Annual sales
- Number of full-time employees (FTEs).

Data generally appears in the same sequence as questions were presented to survey respondents. Questions proceed through eight categories:

- Profile
- Customer-Focused Innovation
- Engaged People/Human Capital Acquisition, Development and Retention
- Superior Processes/Improvement Focus
- Supply-Chain Management and Collaboration
- Green/Sustainability
- Global Engagement
- Going Forward.

Questions and answer categories generally are presented in the same wording and format as they appeared on the survey questionnaire. Responses to survey questions presented in this report consist of two types: Directive single-answer questions for which respondents were asked to "check one" answer category and open-ended questions for which respondents were asked to report a numeric answer. For each of the six functional categories (e.g., Customer-Focused Innovation), respondents were also asked to briefly write in answers regarding best practices; those write-in responses do not appear in this report.

The tables in this report for directive questions are presented in the same format as on the survey. Data for directive questions list the frequency *(N)* and percentage for each answer category (see *Glossary* for definitions of percentage and other terms). Answer categories that were not selected by any respondents have been incorporated into the tables as having a frequency of 0. The tables for open-ended questions are presented with frequency *(N)*, median, average, 75th percentile and 25th percentile statistics. The Manufacturing Performance Institute believes it is best to focus on and report the *median* figure (or median with average). Unlike arithmetical averages or means,

the median is the “typical response” and is not distorted by a few unusually high or low values that may exist in the sample due to special circumstances.

Reading the Tables

Data should be read down the columns. For example for the table below, of the 168 Wisconsin firms with 26 to 75 full-time employees that answered this particular question, 25% have less than 1% of their workforce dedicated to new product development, 51.2% have 1-5% dedicated, 13.1% have 6-10% dedicated, and 10.7% have more than 10% dedicated.

What percentage of your workforce is dedicated to new product development/R&D?	**Number of FTEs**			
	1 to 25	**26 to 75**	**76 to 150**	**More than 150**
(N)	*113*	*168*	*98*	*142*
>1%	24.8%	25.0%	23.5%	16.0%
1-5%	29.2%	51.2%	56.1%	55.6%
6-10%	15.9%	13.1%	12.2%	22.2%
More than 10%	30.1%	10.7%	8.2%	6.3%

Methodology

The *Wisconsin Next Generation Manufacturing Survey* was conducted using an online questionnaire. Respondents also had access to a PDF version of the survey that they could complete and mail back as a hard copy. There were 531 total respondents, with surveys received September and October 2008. Responses were received by the Manufacturing Performance Institute (MPI), and then entered into a database, edited, and cleansed to ensure answers were plausible, where necessary.

All respondent answers to the survey are confidential. As incentives, respondents who provided contact information along with their specific responses (354 respondents) were offered a copy of a NGM Performance Report, similar to this Data Report, which shows their responses next to answer categories comparable to their own profile. Respondents who wished to remain anonymous could provide contact at a separate website and, as their incentive, they receive a Data Report.

Glossary

Frequency (N): Frequency is the number or count of responses for a question.

Average: The average or mean value for answers to open-ended questions (sum of values divided by the number of responses).

Median: The midpoint value for open-ended questions — the value above which and below which half the answers fall; equivalent to the 50th percentile. The median is frequently the most reliable statistic upon which to base comparisons.

Percentage: The percentage of responses for a specific answer category based on all responses for that particular question. (*Note: This is* not *based on the total number of respondents for the survey*). For cross-tabulated data, the percentage is based on those that responded to *both* the question being analyzed and the cross-tabulation question.

Percentiles: The 25th percentile is the value below which 25% of answers fall. The 75th percentile is the value below which 75% of answers fall.

2008 WISCONSIN NEXT GENERATION MANUFACTURING STUDY

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
PROFILE				
Which of the following describes your organization?				
(N)	*527*	*202*	*239*	*55*
Company	85.6%	95.1%	85.4%	58.2%
Division/unit of a larger company	14.4%	5.0%	14.6%	41.8%
Driver Industries				
(N)	*531*	*205*	*240*	*55*
3115 - Dairy Product Manufacturing	2.6%	1.5%	2.1%	7.3%
321 - Wood Product Manufacturing (Complete)	4.3%	4.9%	3.3%	5.5%
322 - Paper Manufacturing (Complete)	2.8%	2.0%	2.5%	9.1%
3256 - Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.9%	1.0%	1.3%	0.0%
3315 - Foundries	2.8%	1.0%	4.6%	3.6%
332 - Fabricated Metal Products (Partial)	16.8%	20.0%	17.5%	7.3%
333 - Machinery Manufacturer (Partial)	23.4%	24.4%	22.9%	23.6%
3353 - Electrical Equipment Manufacturing	1.1%	0.5%	2.1%	0.0%
3359 - Other Electrical Equipment and Component Manufacturing	1.1%	2.0%	0.8%	0.0%
Other Industries	44.1%	42.9%	42.9%	43.6%
Regions				
(N)	*531*	*205*	*240*	*55*
Central	5.3%	4.9%	5.4%	1.8%
East Central	14.9%	10.7%	17.9%	14.6%
North	1.3%	1.0%	2.1%	0.0%
South	18.5%	21.5%	15.4%	20.0%
Southeast	53.9%	57.1%	53.8%	50.9%
West Central I	3.2%	3.9%	1.7%	9.1%
West Central II	1.7%	0.5%	2.5%	1.8%
No Region	1.3%	0.5%	1.2%	1.8%
How many years has your organization been in operation?				
(N)	*531*	*205*	*240*	*55*
Median	37	25	44	55
Average	44	32	50	61
75th Percentile	62	45	68	94
25th Percentile	20	12	25	30
What are your approximate annual revenues?				
(N)	*500*	*205*	*240*	*55*
Median	$14,000,000	$3,600,000	$25,000,000	$200,000,000
Average	$105,800,946	$3,948,649	$33,137,500	$802,509,091
75th Percentile	$40,000,000	$6,000,000	$42,000,000	$425,000,000
25th Percentile	$4,800,000	$1,575,000	$15,000,000	$140,000,000
How many full-time employees (and equivalents)?				
(N)	*527*	*205*	*240*	*55*
Median	68	24	110	575
Average	415	28	147	3,061
75th Percentile	170	40	190	1,800
25th Percentile	29	12	70	300
What is the age of your organization's chief executive?				
(N)	*528*	*204*	*239*	*55*
< 30	0.2%	0.0%	0.0%	0.0%
31-40	6.4%	5.9%	6.7%	7.3%
41-50	34.7%	36.3%	33.5%	30.9%
51-60	39.0%	34.8%	41.8%	43.6%
>60	19.7%	23.0%	18.0%	18.2%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
Do you anticipate a planned succession of leadership in the next five years?				
(N)	*529*	*204*	*240*	*55*
Yes	22.5%	20.1%	22.5%	32.7%
Maybe	30.8%	31.9%	29.6%	30.9%
No	46.7%	48.0%	47.9%	36.4%
CUSTOMER-FOCUSED INNOVATION				
Rate the importance of customer-focused innovation to your organization's success over the next five years:				
(N)	*527*	*204*	*239*	*55*
1=Not important	1.3%	1.5%	1.7%	0.0%
2	2.7%	3.4%	1.7%	5.5%
3	10.3%	13.2%	10.0%	3.6%
4	31.3%	35.3%	26.8%	32.7%
5=Highly important	54.5%	46.6%	59.8%	58.2%
Rate your organization's progress toward world-class customer-focused innovation:				
(N)	*528*	*204*	*239*	*55*
1=No progress	3.4%	5.4%	2.9%	0.0%
2	16.5%	20.1%	14.6%	9.1%
3	36.9%	39.2%	39.8%	29.1%
4	33.7%	28.9%	33.1%	49.1%
5=World-class	9.5%	6.4%	9.6%	12.7%
Input Measures				
What percentage of your workforce is dedicated to new-product development/R&D?				
(N)	*525*	*202*	*239*	*54*
<1%	22.1%	25.7%	20.9%	11.1%
1-5%	48.4%	41.6%	54.0%	51.9%
6-10%	16.4%	13.9%	16.7%	25.9%
>10%	13.1%	18.8%	8.4%	11.1%
What percentage of sales is invested into new-product development/R&D?				
(N)	*525*	*202*	*239*	*55*
<1%	25.5%	29.2%	26.4%	10.9%
1-5%	47.8%	42.1%	51.9%	52.7%
6-10%	15.1%	13.9%	13.8%	20.0%
>10%	11.6%	14.9%	8.0%	16.4%
What best describes your measurement system for reviewing return from custom-focused innovation?				
(N)	*527*	*205*	*238*	*55*
No measurement system per se or reviews	31.7%	46.3%	26.5%	5.5%
Ad hoc monitoring of basic measures and ad hoc reviews	30.7%	27.3%	34.0%	38.2%
Company-specific metrics monitored regularly by operations staff	9.9%	7.8%	11.3%	9.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.0%	11.7%	18.9%	30.9%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.7%	6.8%	9.2%	16.4%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
Output Measures				
How many new products as a percentage of total SKUs are launched annually (count only new SKUs, not a product iteration or line extension)?				
(N)	*520*	*199*	*237*	*55*
<5%	56.5%	63.8%	51.1%	50.9%
5-10%	27.1%	20.1%	33.8%	30.9%
11-20%	11.4%	9.6%	11.8%	18.2%
>20%	5.0%	6.5%	3.4%	0.0%
Approximately what percentage of annual sales are derived from products introduced in the past three years?				
(N)	*524*	*200*	*239*	*55*
<5%	26.3%	32.5%	21.3%	23.6%
5-25%	47.0%	39.5%	53.1%	50.9%
26-50%	19.3%	20.0%	18.8%	21.8%
>50%	7.4%	8.0%	6.7%	3.6%
ENGAGED PEOPLE/HUMAN-CAPITAL ACQUISITION, DEVELOPMENT AND RETENTION				
Rate the importance of human-capital acquisition, development and retention to your organization's success over the next five years:				
(N)	*530*	*205*	*240*	*55*
1=Not important	1.3%	2.0%	0.8%	0.0%
2	3.2%	4.9%	1.7%	1.8%
3	14.0%	17.1%	12.9%	14.6%
4	32.1%	32.2%	33.3%	29.1%
5=Highly important	49.4%	43.9%	51.3%	54.6%
Rate your organization's progress toward world-class human-capital acquisition, development and retention:				
(N)	*526*	*204*	*237*	*55*
1=No progress	7.8%	12.8%	5.9%	0.0%
2	23.2%	27.5%	19.8%	20.0%
3	40.1%	34.3%	47.3%	32.7%
4	23.8%	22.1%	22.4%	38.2%
5=World-class	5.1%	3.4%	4.6%	9.1%
Input Measures				
What percentage of employees regularly participate in empowered work teams (i.e., make decisions without supervisor approval?				
(N)	*529*	*204*	*240*	*55*
<25%	39.9%	38.2%	39.6%	38.2%
25-50%	30.3%	31.4%	30.8%	23.6%
51-75%	14.9%	13.2%	13.8%	29.1%
76-90%	9.6%	9.8%	11.3%	5.5%
>90%	5.3%	7.4%	4.6%	3.6%
How many formal training hours are devoted annually to each employee?				
(N)	*528*	*204*	*239*	*55*
8 or fewer	29.0%	37.3%	23.4%	21.8%
9-20	43.0%	38.2%	48.5%	34.6%
21-40	18.4%	13.2%	19.3%	34.6%
>40	9.7%	11.3%	8.8%	9.1%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
What percentage of employees are dedicated to assessing and upgrading your organization's talent pool?				
(N)	*528*	*204*	*240*	*54*
<1%	27.8%	28.9%	26.7%	31.5%
1-5%	49.4%	46.6%	51.7%	50.0%
6-10%	14.4%	12.8%	16.7%	13.0%
>10%	8.3%	11.8%	5.0%	5.6%
What best describes your measurement system for reviewing return from human-capital acquisition, development and retention?				
(N)	*527*	*205*	*238*	*55*
No measurement system per se or reviews	28.3%	37.6%	25.2%	7.3%
Ad hoc monitoring of basic measures and ad hoc reviews	35.7%	34.2%	35.3%	45.5%
Company-specific metrics monitored regularly by operations staff	13.5%	12.2%	12.6%	21.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.2%	12.2%	22.7%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	4.4%	3.9%	4.2%	5.5%
Output Measures				
What is your value-added per employee ([sales – cost of materials] ÷ number of employees)?				
(N)	*508*	*201*	*233*	*53*
< $75,000	32.3%	41.3%	26.2%	22.6%
$75,000-$125,000	39.4%	39.8%	42.5%	26.4%
$125,001-$175,000	18.1%	14.9%	20.6%	18.9%
> $175,000	10.2%	4.0%	10.7%	32.1%
What is your organization's annual labor turnover rate (number of voluntary and involuntary separations ÷ typical staffing level)?				
(N)	*520*	*202*	*236*	*53*
0%	5.2%	11.9%	0.4%	0.0%
0.1-1%	17.9%	25.3%	12.7%	9.4%
1.1-5%	32.9%	24.8%	39.4%	37.7%
5.1-10%	28.1%	23.3%	31.8%	34.0%
>10%	16.0%	14.9%	15.7%	18.9%

SUPERIOR PROCESSES/IMPROVEMENT FOCUS

Rate the importance of process improvement to your organization's success over the next five years:				
(N)	*530*	*205*	*240*	*55*
1=Not important	0.8%	1.5%	0.4%	0.0%
2	1.9%	2.9%	1.3%	0.0%
3	9.8%	11.7%	8.8%	9.1%
4	26.4%	25.9%	26.3%	25.5%
5=Highly important	61.1%	58.1%	63.3%	65.5%
Rate your organization's progress toward world-class processes and process improvement:				
(N)	*528*	*204*	*240*	*54*
1=No progress	3.6%	6.9%	2.1%	0.0%
2	16.9%	22.1%	13.3%	9.3%
3	37.7%	35.8%	45.4%	22.2%
4	34.5%	28.9%	34.2%	53.7%
5=World-class	7.4%	6.4%	5.0%	14.8%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
Input Measures				
What percentage of your workforce has been fully engaged in your organization's specific improvement method/approach?				
(N)	*527*	*204*	*239*	*55*
<26%	32.6%	35.3%	29.7%	30.9%
26-50%	22.8%	22.1%	25.1%	14.6%
51-75%	18.0%	18.6%	15.9%	18.2%
76-99%	17.7%	12.3%	21.3%	29.1%
100%	8.9%	11.8%	8.0%	7.3%
What is your organization's investment in capital equipment as a percentage of sales (three-year average)?				
(N)	*526*	*205*	*239*	*54*
<1%	7.6%	11.7%	4.6%	3.7%
1-5%	51.5%	40.0%	57.3%	64.8%
6-10%	25.7%	26.8%	26.8%	20.4%
>10%	15.2%	21.5%	11.3%	11.1%
What best describes your measurement system for reviewing return from process improvements?				
(N)	*524*	*202*	*239*	*54*
No measurement system per se or reviews	15.3%	26.7%	8.4%	1.9%
Ad hoc monitoring of basic measures and ad hoc reviews	28.2%	30.2%	29.7%	16.7%
Company-specific metrics monitored regularly by operations staff	21.4%	15.4%	24.7%	27.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff	22.7%	20.3%	22.2%	33.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	12.4%	7.4%	15.1%	20.4%
Output Measures				
What percentage of deliveries reach customers in perfect order (on time, high quality, to all customer specifications)?				
(N)	*525*	*204*	*237*	*54*
<80%	8.6%	7.8%	9.3%	7.4%
80-90%	16.0%	18.6%	15.6%	13.0%
91-95%	23.6%	24.0%	25.3%	16.7%
96-98%	26.5%	23.0%	26.6%	33.3%
>98%	25.3%	26.5%	23.2%	29.6%
Describe your customers' satisfaction with your overall performance?				
(N)	*524*	*205*	*236*	*53*
Threatens to pull business because we don't match the competition	1.7%	1.5%	1.7%	1.9%
Indifferent to buying our product or competitors	5.2%	7.8%	3.0%	5.7%
Preference for our products by virtue of price, quality, and delivery performance	47.1%	42.0%	51.3%	49.1%
Strong loyalty to our products due to ongoing trust in our organization's people and capabilities	46.0%	48.8%	44.1%	43.4%
By what percentage has productivity (i.e., value add) improved over the past three years?				
(N)	*518*	*203*	*235*	*54*
<25%	48.1%	52.2%	46.8%	46.3%
26-50	33.0%	28.1%	34.9%	37.0%
51-75%	12.9%	12.8%	12.8%	13.0%
76-99%	5.0%	6.4%	4.3%	1.9%
>100%	1.0%	0.5%	1.3%	1.9%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
SUPPLY-CHAIN MANAGEMENT & COLLABORATION				
Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:				
(N)	*527*	*204*	*240*	*54*
1=Not important	4.7%	6.9%	2.9%	5.6%
2	8.5%	12.8%	6.7%	3.7%
3	19.9%	17.7%	22.5%	13.0%
4	31.3%	29.9%	32.5%	35.2%
5=Highly important	35.5%	32.8%	35.4%	42.6%
Rate your organization's progress toward world-class supply-chain management and collaboration:				
(N)	*524*	*202*	*239*	*54*
1=No progress	9.4%	13.4%	7.1%	5.6%
2	25.6%	26.2%	27.6%	16.7%
3	40.3%	38.6%	42.7%	35.2%
4	21.8%	19.3%	20.9%	37.0%
5=World-class	3.1%	2.5%	1.7%	5.6%
Input Measures				
What percentage of your workforce is dedicated to supply-chain and partner development, management, and collaboration?				
(N)	*523*	*202*	*238*	*55*
<1%	26.2%	29.7%	24.4%	20.0%
1-5%	51.8%	43.1%	58.0%	61.8%
6-10%	15.5%	15.8%	15.1%	12.7%
>10%	6.5%	11.4%	2.5%	5.5%
What is your organization's investment in information technologies (hardware and software) as a percentage of sales (three-year average)?				
(N)	*528*	*204*	*240*	*55*
<1%	30.7%	32.4%	30.8%	18.2%
1-5%	49.4%	47.1%	50.4%	61.8%
6-10%	13.1%	12.8%	12.5%	14.6%
>10%	6.8%	7.8%	6.3%	5.5%
What best describes your measurement system for reviewing return from supply-chain management and collaboration?				
(N)	*525*	*204*	*237*	*55*
No measurement system per se or reviews	28.6%	44.1%	21.5%	5.5%
Ad hoc monitoring of basic measures and ad hoc reviews	32.8%	30.4%	37.6%	29.1%
Company-specific metrics monitored regularly by operations staff	18.3%	9.8%	21.1%	30.9%
Regular monitoring and review of company-specific metrics by CEO and senior staff	14.7%	12.8%	13.5%	21.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	5.7%	2.9%	6.3%	12.7%
Output Measures				
By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?				
(N)	*517*	*200*	*237*	*54*
<10%	58.6%	60.5%	60.8%	48.2%
10-25%	30.0%	29.0%	27.0%	40.7%
26-50%	9.5%	8.5%	10.1%	9.3%
>50%	1.9%	2.0%	2.1%	1.9%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?				
(N)	*508*	*193*	*232*	*55*
Suppliers regularly measured on cost, quality, and delivery performance	35.8%	38.9%	39.2%	12.7%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%	10.4%	10.8%	10.9%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and "soft" qualities (e.g., trust, flexibility)	31.5%	30.1%	30.6%	45.5%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	17.5%	16.1%	15.5%	25.5%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	4.7%	4.7%	3.9%	5.5%

GREEN/SUSTAINABILITY

Rate the importance of Green/Sustainability to your organization's success over the next five years:				
(N)	*528*	*205*	*240*	*54*
1=Not important	15.7%	18.1%	15.8%	7.4%
2	21.6%	23.9%	20.0%	22.2%
3	29.9%	31.7%	30.0%	25.9%
4	21.2%	16.6%	23.8%	24.1%
5=Highly important	11.6%	9.8%	10.4%	20.4%
Rate your organization's progress toward world-class Green/Sustainability:				
(N)	*526*	*203*	*240*	*54*
1=No progress	21.7%	29.6%	19.6%	5.6%
2	33.7%	30.1%	38.8%	29.6%
3	27.6%	26.6%	26.7%	31.5%
4	14.8%	12.3%	14.2%	22.2%
5=World-class	2.3%	1.5%	0.8%	11.1%
Input Measures				
What percentage of your workforce is dedicated to reducing energy, material, or emissions in your operations?				
(N)	*522*	*202*	*237*	*54*
<1%	49.4%	43.1%	55.3%	50.0%
1-5%	35.3%	37.6%	33.3%	37.0%
6-10%	7.5%	9.9%	5.9%	7.4%
>10%	7.9%	9.4%	5.5%	5.6%
What percentage of the workforce is dedicated to Green products (product and packaging impact, green products and markets)?				
(N)	*521*	*203*	*238*	*52*
<1%	58.9%	52.7%	64.7%	57.7%
1-5%	28.4%	32.5%	25.2%	25.0%
6-10%	6.0%	6.4%	5.5%	7.7%
>10%	6.7%	8.4%	4.6%	9.6%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
What best describes your measurement system for reviewing return from Green/Sustainability efforts?				
(N)	*525*	*204*	*238*	*54*
No measurement system per se or reviews	61.3%	66.2%	64.3%	38.9%
Ad hoc monitoring of basic measures and ad hoc reviews	20.0%	18.6%	21.0%	20.4%
Company-specific metrics monitored regularly by operations staff	7.8%	4.9%	7.1%	14.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff	8.8%	7.8%	5.9%	24.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.1%	2.5%	1.7%	1.9%
Output Measures				
What is your annual reduction in energy per unit of product output?				
(N)	*515*	*204*	*230*	*54*
<10%	84.7%	84.8%	84.4%	85.2%
10-25%	13.8%	13.2%	13.9%	14.8%
26-50%	1.4%	1.5%	1.7%	0.0%
>50%	0.2%	0.5%	0.0%	0.0%
What is your annual reduction in usage of non-recycled material per unit of product output?				
(N)	*514*	*201*	*232*	*54*
<10%	80.0%	81.1%	81.5%	70.4%
10-25%	16.0%	14.4%	14.2%	25.9%
26-50%	3.1%	3.5%	3.5%	1.9%
>50%	1.0%	1.0%	0.9%	1.9%
What percentage of your products (by sales volume) are completely recyclable/reusable?				
(N)	*512*	*204*	*229*	*54*
<50%	55.7%	52.9%	55.9%	61.1%
51-75%	10.7%	11.8%	9.6%	13.0%
76-89%	8.2%	8.8%	8.7%	5.6%
90-99%	16.6%	20.1%	15.3%	7.4%
100%	8.8%	6.4%	10.5%	13.0%
GLOBAL ENGAGEMENT				
Rate the importance of global engagement to your organization's success over the next five years:				
(N)	*526*	*202*	*239*	*55*
1=Not important	19.6%	25.7%	18.0%	5.5%
2	20.9%	24.3%	20.5%	10.9%
3	20.2%	22.8%	18.0%	21.8%
4	18.3%	13.9%	19.3%	23.6%
5=Highly important	21.1%	13.4%	24.3%	38.2%
Rate your organization's progress toward becoming a world-class global player:				
(N)	*524*	*201*	*239*	*54*
1=No progress	29.0%	39.8%	25.1%	9.3%
2	31.3%	31.3%	34.3%	18.5%
3	18.5%	15.9%	18.8%	20.4%
4	16.8%	11.4%	18.8%	33.3%
5=World-class	4.4%	1.5%	2.9%	18.5%

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
Input Measures				
What percentage of your total direct workforce is located overseas and/or located domestically and responsible for global business activities?				
(N)	*528*	*203*	*240*	*55*
0%	58.3%	75.9%	51.7%	18.2%
1-25%	36.0%	21.7%	42.9%	63.6%
26-50%	3.6%	2.0%	4.2%	9.1%
>50%	2.1%	0.5%	1.3%	9.1%
What best describes your measurement system for reviewing return from global engagement?				
(N)	*520*	*201*	*235*	*55*
No measurement system per se or reviews	59.8%	74.1%	55.3%	27.3%
Ad hoc monitoring of basic measures and ad hoc reviews	16.5%	14.9%	17.9%	20.0%
Company-specific metrics monitored regularly by operations staff	7.9%	5.5%	8.5%	12.7%
Regular monitoring and review of company-specific metrics by CEO and senior staff	13.1%	4.0%	15.7%	34.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.7%	1.5%	2.6%	5.5%
Output Measures				
By what percentage has dollar volume of sales outside the United States changed over the past three years?				
(N)	*518*	*202*	*234*	*55*
<25%	77.0%	85.2%	72.2%	67.3%
26-50%	15.8%	9.9%	20.1%	21.8%
51-100%	4.1%	2.5%	4.3%	5.5%
>100%	3.1%	2.5%	3.4%	5.5%
In how many countries outside of the United States does your organization operate or partner in production facilities?				
(N)	*520*	*201*	*235*	*55*
0	67.3%	80.1%	64.7%	29.1%
1-5	23.9%	15.4%	27.7%	41.8%
6-10	3.7%	2.5%	3.0%	10.9%
>10	5.2%	2.0%	4.7%	18.2%
In how many countries outside of the United States does your organization have sales and/or distribution facilities?				
(N)	*520*	*201*	*235*	*55*
0	62.9%	80.1%	57.9%	25.5%
1-5	23.7%	15.4%	28.1%	32.7%
6-10	4.8%	3.0%	5.1%	9.1%
>10	8.7%	1.5%	8.9%	32.7%
GOING FORWARD				
To what extent does your geographic region in Wisconsin have the support services, peer groups, training opportunities and resources available to support the following?				
Customer-focused innovation				
(N)	*526*	*203*	*238*	*55*
1=No support	10.3%	12.3%	10.5%	3.6%
2	20.9%	22.7%	20.2%	21.8%
3	32.7%	29.1%	34.0%	34.6%
4	26.1%	25.6%	26.9%	29.1%
5=Full support	10.1%	10.3%	8.4%	10.9%

2008 WISCONSIN NEXT GENERATION MANUFACTURING STUDY

		Annual Sales		
	All Firms	Less than $10 million	$10 million to $100 million	More than $100 million
Engaged people/Human-capital acquisition, development and retention				
(N)	*524*	*202*	*238*	*55*
1=No support	6.5%	7.4%	6.7%	1.8%
2	23.5%	23.3%	23.5%	16.4%
3	31.7%	30.7%	33.2%	32.7%
4	29.4%	28.2%	29.8%	40.0%
5=Full support	9.0%	10.4%	6.7%	9.1%
Superior processes/Improvement focus				
(N)	*522*	*200*	*238*	*55*
1=No support	6.7%	9.5%	6.3%	1.8%
2	17.2%	21.0%	14.7%	12.7%
3	28.9%	26.5%	31.5%	23.6%
4	33.3%	30.0%	34.0%	47.3%
5=Full support	13.8%	13.0%	13.5%	14.6%
Supply-chain management and collaboration				
(N)	*523*	*201*	*238*	*55*
1=No support	8.0%	9.5%	8.0%	1.8%
2	23.1%	23.9%	22.7%	23.6%
3	34.4%	31.8%	35.7%	34.6%
4	27.0%	25.9%	27.7%	32.7%
5=Full support	7.5%	9.0%	5.9%	7.3%
Green/Sustainability				
(N)	*522*	*202*	*236*	*55*
1=No support	16.5%	19.3%	17.0%	5.5%
2	29.1%	28.7%	30.5%	29.1%
3	33.0%	27.7%	33.5%	43.6%
4	14.8%	15.8%	13.6%	14.6%
5=Full support	6.7%	8.4%	5.5%	7.3%
Global engagement				
(N)	*517*	*200*	*235*	*54*
1=No support	20.7%	24.0%	21.3%	9.3%
2	31.9%	31.5%	29.8%	33.3%
3	30.4%	26.0%	33.6%	37.0%
4	11.6%	12.0%	11.1%	13.0%
5=Full support	5.4%	6.5%	4.3%	7.4%

2008 WISCONSIN NEXT GENERATION MANUFACTURING STUDY

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
PROFILE					
Which of the following describes your organization?					
(N)	*527*	*115*	*168*	*97*	*143*
Company	85.6%	93.9%	89.9%	83.5%	75.5%
Division/unit of a larger company	14.4%	6.1%	10.1%	16.5%	24.5%
Driver Industries					
(N)	*531*	*117*	*169*	*98*	*143*
3115 - Dairy Product Manufacturing	2.6%	2.6%	4.1%	2.0%	1.4%
321 - Wood Product Manufacturing (Complete)	4.3%	4.3%	4.1%	2.0%	6.3%
322 - Paper Manufacturing (Complete)	2.8%	0.9%	1.8%	4.1%	4.9%
3256 - Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.9%	1.7%	0.0%	2.0%	0.7%
3315 - Foundries	2.8%	0.9%	0.6%	4.1%	6.3%
332 - Fabricated Metal Products (Partial)	16.8%	15.4%	22.5%	17.4%	11.2%
333 - Machinery Manufacturer (Partial)	23.4%	25.6%	24.3%	23.5%	18.9%
3353 - Electrical Equipment Manufacturing	1.1%	0.0%	1.2%	3.1%	0.7%
3359 - Other Electrical Equipment and Component Manufacturing	1.1%	2.6%	0.6%	1.0%	0.7%
Other Industries	44.1%	46.2%	40.8%	40.8%	49.0%
Regions					
(N)	*531*	*117*	*169*	*98*	*143*
Central	5.3%	4.3%	3.6%	7.1%	7.0%
East Central	14.9%	7.7%	13.6%	19.4%	17.5%
North	1.3%	1.7%	1.2%	1.0%	1.4%
South	18.5%	29.1%	17.2%	9.2%	18.2%
Southeast	53.9%	51.3%	59.2%	58.2%	47.6%
West Central I	3.2%	4.3%	3.0%	2.0%	3.5%
West Central II	1.7%	0.0%	0.6%	2.0%	4.2%
No Region	1.3%	1.7%	1.8%	1.0%	0.7%
How many years has your organization been in operation?					
(N)	*531*	*117*	*169*	*98*	*143*
Median	37	21	28	43	53
Average	44	30	38	48	61
75th Percentile	62	45	52	66	90
25th Percentile	20	11	16	28	32
What are your approximate annual revenues?					
(N)	*500*	*110*	*163*	*95*	*132*
Median	$14,000,000	$2,000,000	$8,000,000	$21,000,000	$80,000,000
Average	$105,800,946	$2,862,482	$13,354,601	$30,392,632	$360,011,364
75th Percentile	$40,000,000	$3,500,000	$13,000,000	$34,000,000	$173,750,000
25th Percentile	$4,800,000	$1,000,000	$5,000,000	$15,000,000	$40,000,000
How many full-time employees (and equivalents)?					
(N)	*527*	*117*	*169*	*98*	*143*
Median	68	12	46	105	300
Average	415	13	47	109	1,387
75th Percentile	170	18	60	125	600
25th Percentile	29	8	34	95	200
What is the age of your organization's chief executive?					
(N)	*528*	*117*	*168*	*97*	*143*
< 30	0.2%	0.0%	0.0%	0.0%	0.0%
31-40	6.4%	6.0%	5.4%	7.2%	7.7%
41-50	34.7%	35.9%	36.3%	35.1%	30.8%
51-60	39.0%	35.9%	38.1%	36.1%	45.5%
>60	19.7%	22.2%	20.2%	21.7%	16.1%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
Do you anticipate a planned succession of leadership in the next five years?					
(N)	*529*	*115*	*169*	*98*	*143*
Yes	22.5%	19.1%	19.5%	31.6%	22.4%
Maybe	30.8%	28.7%	34.9%	26.5%	30.8%
No	46.7%	52.2%	45.6%	41.8%	46.9%
CUSTOMER-FOCUSED INNOVATION					
Rate the importance of customer-focused innovation to your organization's success over the next five years:					
(N)	*527*	*115*	*168*	*97*	*143*
1=Not important	1.3%	0.9%	2.4%	2.1%	0.0%
2	2.7%	6.1%	1.2%	1.0%	2.8%
3	10.3%	15.7%	8.9%	8.3%	9.1%
4	31.3%	25.2%	35.7%	24.7%	34.3%
5=Highly important	54.5%	52.2%	51.8%	63.9%	53.9%
Rate your organization's progress toward world-class customer-focused innovation:					
(N)	*528*	*116*	*167*	*98*	*143*
1=No progress	3.4%	6.0%	5.4%	2.0%	0.0%
2	16.5%	19.8%	16.8%	16.3%	13.3%
3	36.9%	30.2%	40.7%	38.8%	37.1%
4	33.7%	33.6%	30.5%	33.7%	38.5%
5=World-class	9.5%	10.3%	6.6%	9.2%	11.2%
Input Measures					
What percentage of your workforce is dedicated to new-product development/R&D?					
(N)	*525*	*113*	*168*	*98*	*142*
<1%	22.1%	24.8%	25.0%	23.5%	15.5%
1-5%	48.4%	29.2%	51.2%	56.1%	55.6%
6-10%	16.4%	15.9%	13.1%	12.2%	22.5%
>10%	13.1%	30.1%	10.7%	8.2%	6.3%
What percentage of sales is invested into new-product development/R&D?					
(N)	*525*	*114*	*167*	*98*	*142*
<1%	25.5%	29.0%	29.9%	26.5%	16.9%
1-5%	47.8%	35.1%	46.1%	51.0%	57.8%
6-10%	15.1%	17.5%	13.2%	14.3%	15.5%
>10%	11.6%	18.4%	10.8%	8.2%	9.9%
What best describes your measurement system for reviewing return from custom-focused innovation?					
(N)	*527*	*116*	*169*	*96*	*143*
No measurement system per se or reviews	31.7%	49.1%	34.3%	22.9%	19.6%
Ad hoc monitoring of basic measures and ad hoc reviews	30.7%	25.9%	29.6%	36.5%	32.9%
Company-specific metrics monitored regularly by operations staff	9.9%	8.6%	9.5%	11.5%	10.5%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.0%	10.3%	17.2%	16.7%	26.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.7%	6.0%	9.5%	12.5%	10.5%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
Output Measures					
How many new products as a percentage of total SKUs are launched annually (count only new SKUs, not a product iteration or line extension)?					
(N)	*520*	*115*	*164*	*96*	*142*
<5%	56.5%	62.6%	59.8%	55.2%	48.6%
5-10%	27.1%	20.0%	26.2%	31.3%	31.7%
11-20%	11.4%	8.7%	11.0%	9.4%	15.5%
>20%	5.0%	8.7%	3.1%	4.2%	4.2%
Approximately what percentage of annual sales are derived from products introduced in the past three years?					
(N)	*524*	*113*	*167*	*97*	*143*
<5%	26.3%	34.5%	28.7%	25.8%	17.5%
5-25%	47.0%	35.4%	44.3%	48.5%	58.0%
26-50%	19.3%	19.5%	21.6%	20.6%	16.1%
>50%	7.4%	10.6%	5.4%	5.2%	8.4%
ENGAGED PEOPLE/HUMAN-CAPITAL ACQUISITION, DEVELOPMENT AND RETENTION					
Rate the importance of human-capital acquisition, development and retention to your organization's success over the next five years:					
(N)	*530*	*116*	*169*	*98*	*143*
1=Not important	1.3%	4.3%	0.6%	0.0%	0.7%
2	3.2%	6.0%	4.1%	0.0%	2.1%
3	14.0%	18.1%	13.0%	16.3%	10.5%
4	32.1%	31.0%	31.4%	31.6%	35.0%
5=Highly important	49.4%	40.5%	50.9%	52.0%	51.8%
Rate your organization's progress toward world-class human-capital acquisition, development and retention:					
(N)	*526*	*115*	*167*	*97*	*143*
1=No progress	7.8%	15.7%	8.4%	5.2%	2.8%
2	23.2%	27.0%	24.6%	26.8%	16.8%
3	40.1%	31.3%	40.1%	38.1%	48.3%
4	23.8%	20.9%	22.2%	25.8%	26.6%
5=World-class	5.1%	5.2%	4.8%	4.1%	5.6%
Input Measures					
What percentage of employees regularly participate in empowered work teams (i.e., make decisions without supervisor approval?					
(N)	*529*	*116*	*168*	*98*	*143*
<25%	39.9%	36.2%	42.3%	41.8%	39.2%
25-50%	30.3%	27.6%	28.6%	29.6%	34.3%
51-75%	14.9%	13.8%	14.9%	15.3%	15.4%
76-90%	9.6%	13.8%	8.3%	11.2%	7.0%
>90%	5.3%	8.6%	6.0%	2.0%	4.2%
How many formal training hours are devoted annually to each employee?					
(N)	*528*	*115*	*168*	*98*	*143*
8 or fewer	29.0%	39.1%	30.4%	22.5%	23.8%
9-20	43.0%	37.4%	40.5%	58.2%	39.9%
21-40	18.4%	11.3%	18.5%	15.3%	25.9%
>40	9.7%	12.2%	10.7%	4.1%	10.5%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
What percentage of employees are dedicated to assessing and upgrading your organization's talent pool?					
(N)	*528*	*115*	*169*	*98*	*142*
<1%	27.8%	32.2%	24.9%	20.4%	33.1%
1-5%	49.4%	40.9%	49.1%	59.2%	50.0%
6-10%	14.4%	9.6%	17.8%	16.3%	13.4%
>10%	8.3%	17.4%	8.3%	4.1%	3.5%
What best describes your measurement system for reviewing return from human-capital acquisition, development and retention?					
(N)	*527*	*116*	*169*	*96*	*143*
No measurement system per se or reviews	28.3%	47.4%	24.9%	21.9%	20.3%
Ad hoc monitoring of basic measures and ad hoc reviews	35.7%	31.9%	34.3%	34.4%	42.0%
Company-specific metrics monitored regularly by operations staff	13.5%	7.8%	12.4%	19.8%	15.4%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.2%	10.3%	22.5%	18.8%	19.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	4.4%	2.6%	5.9%	5.2%	2.8%
Output Measures					
What is your value-added per employee ([sales – cost of materials] ÷ number of employees)?					
(N)	*508*	*114*	*159*	*96*	*136*
< $75,000	32.3%	39.5%	31.5%	31.3%	27.9%
$75,000-$125,000	39.4%	38.6%	42.8%	39.6%	36.0%
$125,001-$175,000	18.1%	14.9%	20.8%	17.7%	18.4%
> $175,000	10.2%	7.0%	5.0%	11.5%	17.7%
What is your organization's annual labor turnover rate (number of voluntary and involuntary separations ÷ typical staffing level)?					
(N)	*520*	*116*	*164*	*97*	*140*
0%	5.2%	21.6%	1.2%	0.0%	0.0%
0.1-1%	17.9%	29.3%	22.0%	6.2%	10.7%
1.1-5%	32.9%	18.1%	36.6%	44.3%	32.9%
5.1-10%	28.1%	21.6%	24.4%	36.1%	32.9%
>10%	16.0%	9.5%	15.9%	13.4%	23.6%

SUPERIOR PROCESSES/IMPROVEMENT FOCUS

Rate the importance of process improvement to your organization's success over the next five years:					
(N)	*530*	*116*	*169*	*98*	*143*
1=Not important	0.8%	2.6%	0.6%	0.0%	0.0%
2	1.9%	6.0%	0.6%	1.0%	0.7%
3	9.8%	15.5%	10.1%	4.1%	9.1%
4	26.4%	25.0%	26.6%	25.5%	28.7%
5=Highly important	61.1%	50.9%	62.1%	69.4%	61.5%
Rate your organization's progress toward world-class processes and process improvement:					
(N)	*528*	*115*	*169*	*98*	*142*
1=No progress	3.6%	12.2%	2.4%	0.0%	0.7%
2	16.9%	17.4%	20.7%	14.3%	13.4%
3	37.7%	31.3%	42.0%	41.8%	35.9%
4	34.5%	28.7%	29.0%	38.8%	42.3%
5=World-class	7.4%	10.4%	5.9%	5.1%	7.8%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
Input Measures					
What percentage of your workforce has been fully engaged in your organization's specific improvement method/approach?					
(N)	*527*	*116*	*167*	*98*	*143*
<26%	32.6%	39.7%	28.1%	31.6%	32.9%
26-50%	22.8%	19.8%	22.8%	24.5%	23.8%
51-75%	18.0%	16.4%	19.2%	18.4%	17.5%
76-99%	17.7%	10.3%	18.6%	21.4%	20.3%
100%	8.9%	13.8%	11.4%	4.1%	5.6%
What is your organization's investment in capital equipment as a percentage of sales (three-year average)?					
(N)	*526*	*116*	*168*	*97*	*142*
<1%	7.6%	14.7%	6.6%	4.1%	5.6%
1-5%	51.5%	42.2%	48.8%	59.8%	55.6%
6-10%	25.7%	25.0%	24.4%	23.7%	29.6%
>10%	15.2%	18.1%	20.2%	12.4%	9.2%
What best describes your measurement system for reviewing return from process improvements?					
(N)	*524*	*115*	*167*	*97*	*142*
No measurement system per se or reviews	15.3%	37.4%	13.2%	8.3%	4.2%
Ad hoc monitoring of basic measures and ad hoc reviews	28.2%	26.1%	32.9%	27.8%	25.4%
Company-specific metrics monitored regularly by operations staff	21.4%	12.2%	17.4%	25.8%	31.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	22.7%	20.0%	22.8%	24.7%	23.9%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	12.4%	4.4%	13.8%	13.4%	15.5%
Output Measures					
What percentage of deliveries reach customers in perfect order (on time, high quality, to all customer specifications)?					
(N)	*525*	*115*	*168*	*96*	*142*
<80%	8.6%	7.0%	9.5%	10.4%	7.0%
80-90%	16.0%	12.2%	19.1%	20.8%	12.7%
91-95%	23.6%	26.1%	23.2%	18.8%	26.1%
96-98%	26.5%	25.2%	23.2%	28.1%	29.6%
>98%	25.3%	29.6%	25.0%	21.9%	24.7%
Describe your customers' satisfaction with your overall performance?					
(N)	*524*	*116*	*167*	*98*	*139*
Threatens to pull business because we don't match the competition	1.7%	0.9%	1.2%	3.1%	2.2%
Indifferent to buying our product or competitors	5.2%	6.0%	7.2%	4.1%	2.9%
Preference for our products by virtue of price, quality, and delivery performance	47.1%	37.1%	41.3%	55.1%	55.4%
Strong loyalty to our products due to ongoing trust in our organization's people and capabilities	46.0%	56.0%	50.3%	37.8%	39.6%
By what percentage has productivity (i.e., value add) improved over the past three years?					
(N)	*518*	*113*	*166*	*97*	*139*
<25%	48.1%	47.8%	47.6%	44.3%	51.1%
26-50	33.0%	31.0%	31.9%	35.1%	34.5%
51-75%	12.9%	13.3%	15.1%	13.4%	10.1%
76-99%	5.0%	7.1%	4.2%	5.2%	4.3%
>100%	1.0%	0.9%	1.2%	2.1%	0.0%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
SUPPLY-CHAIN MANAGEMENT & COLLABORATION					
Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:					
(N)	*527*	*116*	*168*	*98*	*142*
1=Not important	4.7%	7.8%	4.2%	3.1%	4.2%
2	8.5%	14.7%	8.9%	6.1%	4.9%
3	19.9%	14.7%	25.6%	19.4%	17.6%
4	31.3%	28.5%	28.6%	36.7%	33.1%
5=Highly important	35.5%	34.5%	32.7%	34.7%	40.1%
Rate your organization's progress toward world-class supply-chain management and collaboration:					
(N)	*524*	*115*	*167*	*97*	*142*
1=No progress	9.4%	17.4%	8.4%	6.2%	5.6%
2	25.6%	23.5%	31.1%	26.8%	20.4%
3	40.3%	33.0%	38.9%	45.4%	43.7%
4	21.8%	20.0%	20.4%	21.7%	25.4%
5=World-class	3.1%	6.1%	1.2%	0.0%	4.9%
Input Measures					
What percentage of your workforce is dedicated to supply-chain and partner development, management, and collaboration?					
(N)	*523*	*116*	*163*	*98*	*143*
<1%	26.2%	27.6%	26.4%	24.5%	25.2%
1-5%	51.8%	34.5%	55.8%	56.1%	58.7%
6-10%	15.5%	19.8%	14.1%	16.3%	13.3%
>10%	6.5%	18.1%	3.7%	3.1%	2.8%
What is your organization's investment in information technologies (hardware and software) as a percentage of sales (three-year average)?					
(N)	*528*	*116*	*168*	*98*	*143*
<1%	30.7%	34.5%	32.7%	22.5%	30.1%
1-5%	49.4%	41.4%	50.0%	55.1%	51.8%
6-10%	13.1%	15.5%	9.5%	14.3%	14.7%
>10%	6.8%	8.6%	7.7%	8.2%	3.5%
What best describes your measurement system for reviewing return from supply-chain management and collaboration?					
(N)	*525*	*116*	*167*	*98*	*141*
No measurement system per se or reviews	28.6%	51.7%	31.1%	19.4%	12.8%
Ad hoc monitoring of basic measures and ad hoc reviews	32.8%	28.5%	30.5%	33.7%	39.0%
Company-specific metrics monitored regularly by operations staff	18.3%	6.0%	15.6%	26.5%	24.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff	14.7%	11.2%	16.8%	13.3%	16.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	5.7%	2.6%	6.0%	7.1%	7.1%
Output Measures					
By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?					
(N)	*517*	*113*	*165*	*95*	*141*
<10%	58.6%	64.6%	60.0%	55.8%	53.9%
10-25%	30.0%	24.8%	28.5%	29.5%	36.2%
26-50%	9.5%	8.9%	9.7%	11.6%	8.5%
>50%	1.9%	1.8%	1.8%	3.2%	1.4%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?					
(N)	*508*	*110*	*160*	*94*	*141*
Suppliers regularly measured on cost, quality, and delivery performance	35.8%	35.5%	38.1%	44.7%	27.0%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%	10.0%	8.8%	13.8%	10.6%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and "soft" qualities (e.g., trust, flexibility)	31.5%	30.9%	31.3%	22.3%	38.3%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	17.5%	17.3%	16.9%	13.8%	21.3%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	4.7%	6.4%	5.0%	5.3%	2.8%

GREEN/SUSTAINABILITY

Rate the importance of Green/Sustainability to your organization's success over the next five years:					
(N)	*528*	*116*	*169*	*98*	*142*
1=Not important	15.7%	24.1%	19.5%	10.2%	8.5%
2	21.6%	22.4%	24.3%	21.4%	17.6%
3	29.9%	31.0%	24.9%	35.7%	31.0%
4	21.2%	12.9%	21.3%	20.4%	28.2%
5=Highly important	11.6%	9.5%	10.1%	12.2%	14.8%
Rate your organization's progress toward world-class Green/Sustainability:					
(N)	*526*	*115*	*168*	*98*	*142*
1=No progress	21.7%	33.9%	26.8%	14.3%	11.3%
2	33.7%	27.0%	33.3%	34.7%	38.0%
3	27.6%	27.0%	25.6%	34.7%	25.4%
4	14.8%	11.3%	11.9%	15.3%	21.1%
5=World-class	2.3%	0.9%	2.4%	1.0%	4.2%
Input Measures					
What percentage of your workforce is dedicated to reducing energy, material, or emissions in your operations?					
(N)	*522*	*115*	*166*	*97*	*141*
<1%	49.4%	48.7%	42.8%	51.6%	56.0%
1-5%	35.3%	30.4%	39.8%	37.1%	32.6%
6-10%	7.5%	8.7%	9.0%	6.2%	5.7%
>10%	7.9%	12.2%	8.4%	5.2%	5.7%
What percentage of the workforce is dedicated to Green products (product and packaging impact, green products and markets)?					
(N)	*521*	*115*	*166*	*97*	*140*
<1%	58.9%	53.9%	56.0%	62.9%	63.6%
1-5%	28.4%	24.4%	32.5%	29.9%	25.7%
6-10%	6.0%	9.6%	6.0%	4.1%	4.3%
>10%	6.7%	12.2%	5.4%	3.1%	6.4%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
What best describes your measurement system for reviewing return from Green/Sustainability efforts?					
(N)	*525*	*116*	*167*	*97*	*142*
No measurement system per se or reviews	61.3%	69.8%	65.3%	56.7%	52.8%
Ad hoc monitoring of basic measures and ad hoc reviews	20.0%	13.8%	18.6%	26.8%	21.8%
Company-specific metrics monitored regularly by operations staff	7.8%	4.3%	5.4%	10.3%	12.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	8.8%	10.3%	9.0%	4.1%	10.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.1%	1.7%	1.8%	2.1%	2.8%
Output Measures					
What is your annual reduction in energy per unit of product output?					
(N)	*515*	*116*	*165*	*92*	*139*
<10%	84.7%	86.2%	83.6%	80.4%	87.1%
10-25%	13.8%	11.2%	14.6%	19.6%	11.5%
26-50%	1.4%	1.7%	1.8%	0.0%	1.4%
>50%	0.2%	0.9%	0.0%	0.0%	0.0%
What is your annual reduction in usage of non-recycled material per unit of product output?					
(N)	*514*	*114*	*165*	*93*	*139*
<10%	80.0%	84.2%	78.2%	80.7%	78.4%
10-25%	16.0%	11.4%	16.4%	17.2%	18.0%
26-50%	3.1%	3.5%	4.2%	2.2%	2.2%
>50%	1.0%	0.9%	1.2%	0.0%	1.4%
What percentage of your products (by sales volume) are completely recyclable/reusable?					
(N)	*512*	*115*	*165*	*93*	*136*
<50%	55.7%	53.0%	52.7%	58.1%	59.6%
51-75%	10.7%	11.3%	9.7%	15.1%	8.8%
76-89%	8.2%	9.6%	8.5%	6.5%	8.1%
90-99%	16.6%	20.0%	21.2%	10.8%	11.8%
100%	8.8%	6.1%	7.9%	9.7%	11.8%
GLOBAL ENGAGEMENT					
Rate the importance of global engagement to your organization's success over the next five years:					
(N)	*526*	*114*	*168*	*97*	*143*
1=Not important	19.6%	27.2%	21.4%	21.7%	9.8%
2	20.9%	22.8%	25.6%	18.6%	16.1%
3	20.2%	22.8%	20.2%	18.6%	19.6%
4	18.3%	10.5%	16.1%	22.7%	23.1%
5=Highly important	21.1%	16.7%	16.7%	18.6%	31.5%
Rate your organization's progress toward becoming a world-class global player:					
(N)	*524*	*113*	*168*	*97*	*142*
1=No progress	29.0%	39.8%	33.3%	28.9%	15.5%
2	31.3%	31.9%	32.1%	30.9%	31.0%
3	18.5%	15.0%	16.7%	23.7%	19.7%
4	16.8%	9.7%	16.1%	14.4%	24.7%
5=World-class	4.4%	3.5%	1.8%	2.1%	9.2%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
Input Measures					
What percentage of your total direct workforce is located overseas and/or located domestically and responsible for global business activities?					
(N)	*528*	*115*	*168*	*98*	*143*
0%	58.3%	75.7%	67.3%	55.1%	37.1%
1-25%	36.0%	20.9%	30.4%	41.8%	50.4%
26-50%	3.6%	2.6%	1.8%	2.0%	7.7%
>50%	2.1%	0.9%	0.6%	1.0%	4.9%
What best describes your measurement system for reviewing return from global engagement?					
(N)	*520*	*115*	*165*	*94*	*143*
No measurement system per se or reviews	59.8%	75.7%	64.2%	59.6%	42.7%
Ad hoc monitoring of basic measures and ad hoc reviews	16.5%	11.3%	18.2%	20.2%	16.8%
Company-specific metrics monitored regularly by operations staff	7.9%	6.1%	6.7%	6.4%	11.9%
Regular monitoring and review of company-specific metrics by CEO and senior staff	13.1%	6.1%	7.9%	12.8%	23.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.7%	0.9%	3.0%	1.1%	4.9%
Output Measures					
By what percentage has dollar volume of sales outside the United States changed over the past three years?					
(N)	*518*	*114*	*166*	*95*	*140*
<25%	77.0%	82.5%	78.9%	75.8%	70.7%
26-50%	15.8%	10.5%	15.7%	19.0%	18.6%
51-100%	4.1%	2.6%	3.0%	4.2%	6.4%
>100%	3.1%	4.4%	2.4%	1.1%	4.3%
In how many countries outside of the United States does your organization operate or partner in production facilities?					
(N)	*520*	*115*	*166*	*94*	*142*
0	67.3%	80.9%	72.9%	66.0%	50.7%
1-5	23.9%	14.8%	21.1%	26.6%	33.1%
6-10	3.7%	1.7%	3.6%	2.1%	6.3%
>10	5.2%	2.6%	2.4%	5.3%	9.9%
In how many countries outside of the United States does your organization have sales and/or distribution facilities?					
(N)	*520*	*114*	*166*	*94*	*143*
0	62.9%	76.3%	72.3%	60.6%	43.4%
1-5	23.7%	19.3%	18.7%	26.6%	30.1%
6-10	4.8%	3.5%	3.6%	6.4%	6.3%
>10	8.7%	0.9%	5.4%	6.4%	20.3%
GOING FORWARD					
To what extent does your geographic region in Wisconsin have the support services, peer groups, training opportunities and resources available to support the following?					
Customer-focused innovation					
(N)	*526*	*116*	*166*	*97*	*143*
1=No support	10.3%	15.5%	12.1%	7.2%	6.3%
2	20.9%	25.0%	21.7%	19.6%	18.2%
3	32.7%	29.3%	29.5%	37.1%	36.4%
4	26.1%	21.6%	25.9%	27.8%	28.7%
5=Full support	10.1%	8.6%	10.8%	8.3%	10.5%

		Number of FTEs			
	All Firms	1 to 25	26 to 75	76 to 150	More than 150
Engaged people/Human-capital acquisition, development and retention					
(N)	*524*	*115*	*166*	*97*	*143*
1=No support	6.5%	10.4%	7.8%	4.1%	3.5%
2	23.5%	27.0%	22.3%	24.7%	21.0%
3	31.7%	27.0%	35.5%	36.1%	28.7%
4	29.4%	27.0%	22.9%	28.9%	39.2%
5=Full support	9.0%	8.7%	11.5%	6.2%	7.7%
Superior processes/Improvement focus					
(N)	*522*	*115*	*164*	*97*	*143*
1=No support	6.7%	13.9%	5.5%	5.2%	3.5%
2	17.2%	20.9%	20.1%	14.4%	13.3%
3	28.9%	31.3%	26.8%	33.0%	26.6%
4	33.3%	23.5%	32.3%	37.1%	39.9%
5=Full support	13.8%	10.4%	15.2%	10.3%	16.8%
Supply-chain management and collaboration					
(N)	*523*	*115*	*165*	*97*	*143*
1=No support	8.0%	13.9%	8.5%	5.2%	4.9%
2	23.1%	23.5%	24.9%	25.8%	18.9%
3	34.4%	34.8%	30.9%	43.3%	31.5%
4	27.0%	20.9%	26.7%	20.6%	37.1%
5=Full support	7.5%	7.0%	9.1%	5.2%	7.7%
Green/Sustainability					
(N)	*522*	*115*	*166*	*95*	*143*
1=No support	16.5%	25.2%	15.1%	20.0%	9.1%
2	29.1%	24.4%	30.1%	31.6%	30.1%
3	33.0%	27.8%	33.1%	31.6%	37.1%
4	14.8%	16.5%	13.3%	12.6%	16.8%
5=Full support	6.7%	6.1%	8.4%	4.2%	7.0%
Global engagement					
(N)	*517*	*115*	*164*	*94*	*141*
1=No support	20.7%	32.2%	18.3%	17.0%	16.3%
2	31.9%	27.8%	33.5%	36.2%	31.2%
3	30.4%	26.1%	29.3%	34.0%	32.6%
4	11.6%	8.7%	12.8%	12.8%	11.4%
5=Full support	5.4%	5.2%	6.1%	0.0%	8.5%

Wisconsin Next Generation Manufacturing Survey Data Report

Regions and Driver Industries

Prepared by the Manufacturing Performance Institute

November 2008

Introduction

The Wisconsin Next Generation Manufacturing Survey was developed in order to identify and measure key performance and best practice strategies among Wisconsin's manufacturers. Wisconsin's manufacturing base –and its supporting firms and infrastructure – must change dramatically to remain competitive in a global marketplace. The Wisconsin Next Generation Manufacturing Survey provides a framework for understanding Next Generation Manufacturing (NGM) by identifying the competitive performances and best management practices required to achieve world-class manufacturing status in the 21st Century.

The Wisconsin Next Generation Manufacturing Survey was conducted by The Manufacturing Performance Institute, an independent national research firm, for the Wisconsin Manufacturing Extension Partnership (WMEP) and its partners: Milwaukee 7, the Wisconsin Department of Commerce, and Wisconsin Manufacturing & Commerce.

This *Wisconsin Next Generation Manufacturing Survey Data Report — Regions and Driver Industries* presents the overall findings from the survey as well as cross-tabulations of the survey data by:

- Wisconsin's seven regions:
    - *Central:* Adams, Clark, Langlade, Lincoln, Marathon, Portage, Taylor, Waushara, and Wood counties;
    - *East:* Central: Brown, Calumet, Door, Kewaunee, Marinette, Menominee, Oconto, Outagamie, Shawano, Waupaca, and Winnebago counties;
    - *North:* Ashland, Bayfield, Burnett, Douglas, Florence, Forest, Iron, Oneida, Price, Rusk, Sawyer, Vilas, and Washburn counties;
    - *South:* Columbia, Crawford, Dane, Grant, Green, Iowa, Juneau, Lafayette, Marquette, Richland, Rock, and Saulk counties;
    - *Southeast:* Dodge, Fond du Lac, Green Lake, Jefferson, Kenosha, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington, and Waukesha counties;
    - *West Central I:* Barron, Buffalo, Chippewa, Dunn, Eau Claire, Pepin, Pierce, Polk, and St. Croix counties; and
    - *West Central II:* Jackson, La Crosse, Monroe, Trempealeau, and Vernon counties.
- Driver industries (as determined by the 2005 Wisconsin Manufacturing Study) listed with North American Industry Classification System (NAICS) codes.

Data generally appears in the same sequence as questions were presented to survey respondents. Questions proceed through eight categories:

- Profile
- Customer-Focused Innovation
- Engaged People/Human Capital Acquisition, Development and Retention
- Superior Processes/Improvement Focus
- Supply-Chain Management and Collaboration
- Green/Sustainability
- Global Engagement
- Going Forward.

Questions and answer categories generally are presented in the same wording and format as they appeared on the survey questionnaire. Responses to survey questions presented in this report consist of two types: Directive single-answer questions for which respondents were asked to "check one" answer category and open-ended questions for which respondents were asked to report a numeric answer. For each of the six functional categories (e.g., Customer-Focused Innovation), respondents were also asked to briefly write in answers regarding best practices; those write-in responses do not appear in this report.

The tables in this report for directive questions are presented in the same format as on the survey. Data for directive questions list the frequency *(N)* and percentage for each answer category (see *Glossary* for definitions of percentage and other terms). Answer categories that were not selected by any respondents have been incorporated into the tables as having a frequency of 0. The tables for open-ended questions are presented with frequency *(N)*, median, average, 75th percentile and 25th percentile statistics. Asterisks (*) indicate insufficient data.

The Manufacturing Performance Institute believes it is best to focus on and report the *median* figure (or median with average). Unlike arithmetical averages or means, the median is the "typical response" and is not distorted by a few unusually high or low values that may exist in the sample due to special circumstances.

Reading the Tables

Data should be read down the columns. For example for the table below, of the 283 Wisconsin firms in the Southeast regions that answered this particular question, 22.3% have less than 1% of their workforce dedicated to new product development, 45.6% have 1-5% dedicated, 17.7% have 6-10% dedicated, and 14.5% have more than 10% dedicated.

	Regions							
What percentage of your workforce is dedicated to new product development/R&D?	**Central**	**East Central**	**North**	**South**	**South-east**	**West Central I**	**West Central II**	**No region**
(N)	*28*	*79*	*7*	*96*	*283*	*17*	*9*	*6*
>1%	21.4%	21.5%	28.6%	20.8%	22.3%	23.5%	33.3%	16.7%
1-5%	46.4%	53.2%	28.6%	53.1%	45.6%	52.9%	55.6%	50.0%
6-10%	17.9%	17.7%	14.3%	11.5%	17.7%	17.7%	11.1%	16.7%
More than 10%	14.3%	7.6%	28.6%	14.6%	14.5%	5.9%	0.0%	16.7%

Important: Many cross-tabulation tables in this report contain small samples sizes. While such cross-tabulations can be helpful for benchmarking purposes, small samples greatly reduce the statistical significance of the table.

Methodology

The Wisconsin Next Generation Manufacturing Survey was conducted using an online questionnaire. Respondents also had access to a PDF version of the survey that they could complete and mail back as a hard copy. There were 531 total respondents, with surveys received September and October 2008. Responses were received by the Manufacturing Performance Institute (MPI), and then entered into a database, edited, and cleansed to ensure answers were plausible, where necessary.

All respondent answers to the survey are confidential. As incentives, respondents who provided contact information along with their specific responses (354 respondents) were offered a copy of a NGM Performance Report, similar to this Data Report, which shows their responses next to answer categories comparable to their own profile. Respondents who wished to remain anonymous could provide contact at a separate website and, as their incentive, they receive a Data Report.

Glossary

Frequency (N): Frequency is the number or count of responses for a question.

Average: The average or mean value for answers to open-ended questions (sum of values divided by the number of responses).

Median: The midpoint value for open-ended questions — the value above which and below which half the answers fall; equivalent to the 50th percentile. The median is frequently the most reliable statistic upon which to base comparisons.

Percentage: The percentage of responses for a specific answer category based on all responses for that particular question. (*Note: This is* not *based on the total number of respondents for the survey*). For cross-tabulated data, the percentage is based on those that responded to *both* the question being analyzed and the cross-tabulation question.

Percentiles: The 25th percentile is the value below which 25% of answers fall. The 75th percentile is the value below which 75% of answers fall.

		Driver Industries *(NAICS)*			
	All Firms	*(3115)* Dairy Products	*(321)* Wood Products (Complete)	*(322)* Paper	*(3256)* Soap, Cleaning Compound and Toilet Prep.
PROFILE					
Which of the following describes your organization?					
(N)	*527*	*13*	*22*	*15*	*5*
Company	85.6%	69.2%	90.9%	66.7%	80.0%
Division/unit of a larger company	14.4%	30.8%	9.1%	33.3%	20.0%
Driver Industries					
(N)	*531*	*14*	*23*	*15*	*5*
3115 - Dairy Product Manufacturing	2.6%	100.0%	0.0%	0.0%	0.0%
321 - Wood Product Manufacturing (Complete)	4.3%	0.0%	100.0%	0.0%	0.0%
322 - Paper Manufacturing (Complete)	2.8%	0.0%	0.0%	100.0%	0.0%
3256 - Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.9%	0.0%	0.0%	0.0%	100.0%
3315 - Foundries	2.8%	0.0%	0.0%	0.0%	0.0%
332 - Fabricated Metal Products (Partial)	16.8%	0.0%	0.0%	0.0%	0.0%
333 - Machinery Manufacturer (Partial)	23.4%	0.0%	0.0%	0.0%	0.0%
3353 - Electrical Equipment Manufacturing	1.1%	0.0%	0.0%	0.0%	0.0%
3359 - Other Electrical Equipment and Component Manufacturing	1.1%	0.0%	0.0%	0.0%	0.0%
Other Industries	44.1%	0.0%	0.0%	0.0%	0.0%
Regions					
(N)	*531*	*14*	*23*	*15*	*5*
Central	5.3%	7.1%	17.4%	13.3%	0.0%
East Central	14.9%	28.6%	17.4%	26.7%	20.0%
North	1.3%	0.0%	8.7%	0.0%	0.0%
South	18.5%	35.7%	21.7%	13.3%	20.0%
Southeast	53.9%	14.3%	34.8%	46.7%	60.0%
West Central I	3.2%	14.3%	0.0%	0.0%	0.0%
West Central II	1.7%	0.0%	0.0%	0.0%	0.0%
No Region	1.3%	0.0%	0.0%	0.0%	0.0%
How many years has your organization been in operation?					
(N)	*531*	*14*	*23*	*15*	*5*
Median	37	70	27	40	40
Average	44	70	40	44	39
75th Percentile	62	101	63	60	*
25th Percentile	20	22	15	27	*
What are your approximate annual revenues?					
(N)	*500*	*12*	*21*	*15*	*5*
Median	$14,000,000	$63,500,000	$11,000,000	$50,000,000	$45,000,000
Average	$105,800,946	$110,595,833	$43,847,619	$92,933,333	$44,480,000
75th Percentile	$40,000,000	$185,000,000	$37,500,000	$144,000,000	*
25th Percentile	$4,800,000	$9,125,000	$3,500,000	$7,500,000	*
How many full-time employees (and equivalents)?					
(N)	*527*	*14*	*23*	*15*	*5*
Median	68	64	60	150	130
Average	415	129	899	408	120
75th Percentile	170	142	250	425	*
25th Percentile	29	24	25	65	*
What is the age of your organization's chief executive?					
(N)	*528*	*14*	*23*	*15*	*5*
< 30	0.2%	0.0%	0.0%	0.0%	0.0%
31-40	6.4%	7.1%	8.7%	0.0%	0.0%
41-50	34.7%	35.7%	21.7%	60.0%	20.0%
51-60	39.0%	57.1%	43.5%	26.7%	40.0%
>60	19.7%	0.0%	26.1%	13.3%	40.0%

	All Firms	Driver Industries *(NAICS)* (3115) Dairy Products	(321) Wood Products (Complete)	(322) Paper	(3256) Soap, Cleaning Compound and Toilet Prep.
Do you anticipate a planned succession of leadership in the next five years?					
(N)	*529*	*14*	*23*	*15*	*5*
Yes	22.5%	7.1%	17.4%	26.7%	20.0%
Maybe	30.8%	28.6%	34.8%	40.0%	20.0%
No	46.7%	64.3%	47.8%	33.3%	60.0%

CUSTOMER-FOCUSED INNOVATION

Rate the importance of customer-focused innovation to your organization's success over the next five years:					
(N)	*527*	*14*	*23*	*15*	*5*
1=Not important	1.3%	0.0%	4.4%	0.0%	0.0%
2	2.7%	7.1%	4.4%	0.0%	20.0%
3	10.3%	0.0%	0.0%	6.7%	0.0%
4	31.3%	21.4%	34.8%	13.3%	20.0%
5=Highly important	54.5%	71.4%	56.5%	80.0%	60.0%
Rate your organization's progress toward world-class customer-focused innovation:					
(N)	*528*	*14*	*23*	*15*	*5*
1=No progress	3.4%	0.0%	4.4%	0.0%	0.0%
2	16.5%	7.1%	26.1%	0.0%	20.0%
3	36.9%	42.9%	43.5%	26.7%	20.0%
4	33.7%	50.0%	4.4%	53.3%	60.0%
5=World-class	9.5%	0.0%	21.7%	20.0%	0.0%
Input Measures					
What percentage of your workforce is dedicated to new-product development/R&D?					
(N)	*525*	*14*	*23*	*15*	*5*
<1%	22.1%	7.1%	39.1%	20.0%	20.0%
1-5%	48.4%	64.3%	47.8%	60.0%	40.0%
6-10%	16.4%	14.3%	8.7%	20.0%	20.0%
>10%	13.1%	14.3%	4.4%	0.0%	20.0%
What percentage of sales is invested into new-product development/R&D?					
(N)	*525*	*14*	*23*	*15*	*5*
<1%	25.5%	21.4%	39.1%	20.0%	20.0%
1-5%	47.8%	42.9%	43.5%	46.7%	60.0%
6-10%	15.1%	21.4%	4.4%	33.3%	20.0%
>10%	11.6%	14.3%	13.0%	0.0%	0.0%
What best describes your measurement system for reviewing return from custom-focused innovation?					
(N)	*527*	*14*	*23*	*15*	*5*
No measurement system per se or reviews	31.7%	21.4%	43.5%	6.7%	20.0%
Ad hoc monitoring of basic measures and ad hoc reviews	30.7%	21.4%	34.8%	40.0%	40.0%
Company-specific metrics monitored regularly by operations staff	9.9%	7.1%	8.7%	13.3%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.0%	35.7%	8.7%	20.0%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.7%	14.3%	4.4%	20.0%	0.0%

		Driver Industries *(NAICS)*			
	All Firms	*(3115)* Dairy Products	*(321)* Wood Products (Complete)	*(322)* Paper	*(3256)* Soap, Cleaning Compound and Toilet Prep.
Output Measures					
How many new products as a percentage of total SKUs are launched annually (count only new SKUs, not a product iteration or line extension)?					
(N)	*520*	*14*	*23*	*15*	*5*
<5%	56.5%	57.1%	65.2%	40.0%	20.0%
5-10%	27.1%	21.4%	21.7%	33.3%	60.0%
11-20%	11.4%	21.4%	8.7%	20.0%	20.0%
>20%	5.0%	0.0%	4.4%	6.7%	0.0%
Approximately what percentage of annual sales are derived from products introduced in the past three years?					
(N)	*524*	*14*	*21*	*15*	*5*
<5%	26.3%	35.7%	33.3%	20.0%	20.0%
5-25%	47.0%	50.0%	42.9%	46.7%	40.0%
26-50%	19.3%	14.3%	9.5%	33.3%	0.0%
>50%	7.4%	0.0%	14.3%	0.0%	40.0%
ENGAGED PEOPLE/HUMAN-CAPITAL ACQUISITION, DEVELOPMENT AND RETENTION					
Rate the importance of human-capital acquisition, development and retention to your organization's success over the next five years:					
(N)	*530*	*14*	*23*	*15*	*5*
1=Not important	1.3%	0.0%	0.0%	0.0%	20.0%
2	3.2%	14.3%	13.0%	0.0%	0.0%
3	14.0%	0.0%	8.7%	6.7%	20.0%
4	32.1%	21.4%	39.1%	33.3%	40.0%
5=Highly important	49.4%	64.3%	39.1%	60.0%	20.0%
Rate your organization's progress toward world-class human-capital acquisition, development and retention:					
(N)	*526*	*14*	*22*	*15*	*5*
1=No progress	7.8%	0.0%	9.1%	0.0%	20.0%
2	23.2%	42.9%	31.8%	13.3%	0.0%
3	40.1%	14.3%	27.3%	33.3%	80.0%
4	23.8%	35.7%	27.3%	40.0%	0.0%
5=World-class	5.1%	7.1%	4.6%	13.3%	0.0%
Input Measures					
What percentage of employees regularly participate in empowered work teams (i.e., make decisions without supervisor approval?					
(N)	*529*	*14*	*23*	*15*	*5*
<25%	39.9%	42.9%	34.8%	40.0%	20.0%
25-50%	30.3%	35.7%	43.5%	6.7%	40.0%
51-75%	14.9%	14.3%	13.0%	13.3%	40.0%
76-90%	9.6%	0.0%	8.7%	33.3%	0.0%
>90%	5.3%	7.1%	0.0%	6.7%	0.0%
How many formal training hours are devoted annually to each employee?					
(N)	*528*	*14*	*23*	*15*	*5*
8 or fewer	29.0%	14.3%	30.4%	13.3%	40.0%
9-20	43.0%	57.1%	39.1%	40.0%	40.0%
21-40	18.4%	14.3%	21.7%	33.3%	20.0%
>40	9.7%	14.3%	8.7%	13.3%	0.0%

	All Firms	Driver Industries *(NAICS)* (3115) Dairy Products	(321) Wood Products (Complete)	(322) Paper	(3256) Soap, Cleaning Compound and Toilet Prep.
What percentage of employees are dedicated to assessing and upgrading your organization's talent pool?					
(N)	*528*	*14*	*22*	*15*	*5*
<1%	27.8%	35.7%	45.5%	13.3%	40.0%
1-5%	49.4%	35.7%	40.9%	66.7%	40.0%
6-10%	14.4%	14.3%	9.1%	20.0%	20.0%
>10%	8.3%	14.3%	4.6%	0.0%	0.0%
What best describes your measurement system for reviewing return from human-capital acquisition, development and retention?					
(N)	*527*	*14*	*23*	*15*	*5*
No measurement system per se or reviews	28.3%	42.9%	21.7%	13.3%	40.0%
Ad hoc monitoring of basic measures and ad hoc reviews	35.7%	14.3%	47.8%	33.3%	40.0%
Company-specific metrics monitored regularly by operations staff	13.5%	21.4%	13.0%	33.3%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.2%	21.4%	8.7%	13.3%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	4.4%	0.0%	8.7%	6.7%	0.0%
Output Measures					
What is your value-added per employee ([sales – cost of materials] ÷ number of employees)?					
(N)	*508*	*12*	*21*	*15*	*5*
< $75,000	32.3%	41.7%	66.7%	26.7%	20.0%
$75,000-$125,000	39.4%	8.3%	23.8%	46.7%	40.0%
$125,001-$175,000	18.1%	25.0%	4.8%	13.3%	20.0%
> $175,000	10.2%	25.0%	4.8%	13.3%	20.0%
What is your organization's annual labor turnover rate (number of voluntary and involuntary separations ÷ typical staffing level)?					
(N)	*520*	*14*	*23*	*15*	*5*
0%	5.2%	0.0%	4.4%	0.0%	20.0%
0.1-1%	17.9%	7.1%	8.7%	20.0%	0.0%
1.1-5%	32.9%	42.9%	30.4%	46.7%	20.0%
5.1-10%	28.1%	28.6%	39.1%	26.7%	20.0%
>10%	16.0%	21.4%	17.4%	6.7%	40.0%

SUPERIOR PROCESSES/IMPROVEMENT FOCUS

Rate the importance of process improvement to your organization's success over the next five years:					
(N)	*530*	*14*	*23*	*15*	*5*
1=Not important	0.8%	0.0%	0.0%	0.0%	20.0%
2	1.9%	7.1%	13.0%	0.0%	0.0%
3	9.8%	21.4%	13.0%	6.7%	20.0%
4	26.4%	21.4%	21.7%	33.3%	20.0%
5=Highly important	61.1%	50.0%	52.2%	60.0%	40.0%
Rate your organization's progress toward world-class processes and process improvement:					
(N)	*528*	*14*	*22*	*15*	*5*
1=No progress	3.6%	0.0%	9.1%	0.0%	20.0%
2	16.9%	14.3%	36.4%	0.0%	20.0%
3	37.7%	50.0%	22.7%	60.0%	20.0%
4	34.5%	28.6%	18.2%	33.3%	40.0%
5=World-class	7.4%	7.1%	13.6%	6.7%	0.0%

		Driver Industries *(NAICS)*			
	All Firms	*(3115)* Dairy Products	*(321)* Wood Products (Complete)	*(322)* Paper	*(3256)* Soap, Cleaning Compound and Toilet Prep.
Input Measures					
What percentage of your workforce has been fully engaged in your organization's specific improvement method/approach?					
(N)	*527*	*14*	*23*	*15*	*5*
<26%	32.6%	42.9%	47.8%	20.0%	40.0%
26-50%	22.8%	21.4%	8.7%	40.0%	20.0%
51-75%	18.0%	14.3%	17.4%	6.7%	20.0%
76-99%	17.7%	14.3%	13.0%	13.3%	20.0%
100%	8.9%	7.1%	13.0%	20.0%	0.0%
What is your organization's investment in capital equipment as a percentage of sales (three-year average)?					
(N)	*526*	*13*	*23*	*15*	*5*
<1%	7.6%	0.0%	4.4%	0.0%	20.0%
1-5%	51.5%	76.9%	56.5%	66.7%	80.0%
6-10%	25.7%	0.0%	34.8%	13.3%	0.0%
>10%	15.2%	23.1%	4.4%	20.0%	0.0%
What best describes your measurement system for reviewing return from process improvements?					
(N)	*524*	*14*	*23*	*15*	*5*
No measurement system per se or reviews	15.3%	21.4%	4.4%	13.3%	0.0%
Ad hoc monitoring of basic measures and ad hoc reviews	28.2%	35.7%	43.5%	13.3%	40.0%
Company-specific metrics monitored regularly by operations staff	21.4%	7.1%	17.4%	26.7%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	22.7%	21.4%	21.7%	40.0%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	12.4%	14.3%	13.0%	6.7%	20.0%
Output Measures					
What percentage of deliveries reach customers in perfect order (on time, high quality, to all customer specifications)?					
(N)	*525*	*14*	*23*	*15*	*5*
<80%	8.6%	0.0%	4.4%	0.0%	0.0%
80-90%	16.0%	0.0%	34.8%	0.0%	20.0%
91-95%	23.6%	14.3%	34.8%	26.7%	20.0%
96-98%	26.5%	50.0%	13.0%	46.7%	40.0%
>98%	25.3%	35.7%	13.0%	26.7%	20.0%
Describe your customers' satisfaction with your overall performance?					
(N)	*524*	*14*	*23*	*15*	*5*
Threatens to pull business because we don't match the competition	1.7%	7.1%	0.0%	0.0%	0.0%
Indifferent to buying our product or competitors	5.2%	0.0%	0.0%	6.7%	0.0%
Preference for our products by virtue of price, quality, and delivery performance	47.1%	21.4%	56.5%	33.3%	60.0%
Strong loyalty to our products due to ongoing trust in our organization's people and capabilities	46.0%	71.4%	43.5%	60.0%	40.0%
By what percentage has productivity (i.e., value add) improved over the past three years?					
(N)	*518*	*13*	*23*	*15*	*5*
<25%	48.1%	61.5%	60.9%	40.0%	40.0%
26-50	33.0%	23.1%	26.1%	46.7%	40.0%
51-75%	12.9%	7.7%	8.7%	6.7%	20.0%
76-99%	5.0%	0.0%	4.4%	6.7%	0.0%
>100%	1.0%	7.7%	0.0%	0.0%	0.0%

	All Firms	Driver Industries *(NAICS)* (3115) Dairy Products	(321) Wood Products (Complete)	(322) Paper	(3256) Soap, Cleaning Compound and Toilet Prep.
SUPPLY-CHAIN MANAGEMENT & COLLABORATION					
Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:					
(N)	*527*	*14*	*23*	*14*	*5*
1=Not important	4.7%	7.1%	8.7%	7.1%	20.0%
2	8.5%	14.3%	4.4%	7.1%	0.0%
3	19.9%	7.1%	21.7%	21.4%	20.0%
4	31.3%	35.7%	26.1%	21.4%	60.0%
5=Highly important	35.5%	35.7%	39.1%	42.9%	0.0%
Rate your organization's progress toward world-class supply-chain management and collaboration:					
(N)	*524*	*14*	*22*	*14*	*5*
1=No progress	9.4%	7.1%	18.2%	0.0%	20.0%
2	25.6%	28.6%	22.7%	7.1%	0.0%
3	40.3%	28.6%	36.4%	50.0%	60.0%
4	21.8%	28.6%	18.2%	42.9%	20.0%
5=World-class	3.1%	7.1%	4.6%	0.0%	0.0%
Input Measures					
What percentage of your workforce is dedicated to supply-chain and partner development, management, and collaboration?					
(N)	*523*	*13*	*23*	*15*	*5*
<1%	26.2%	23.1%	39.1%	26.7%	20.0%
1-5%	51.8%	38.5%	52.2%	66.7%	40.0%
6-10%	15.5%	38.5%	8.7%	0.0%	20.0%
>10%	6.5%	0.0%	0.0%	6.7%	20.0%
What is your organization's investment in information technologies (hardware and software) as a percentage of sales (three-year average)?					
(N)	*528*	*14*	*23*	*15*	*5*
<1%	30.7%	35.7%	52.2%	20.0%	60.0%
1-5%	49.4%	50.0%	26.1%	46.7%	40.0%
6-10%	13.1%	14.3%	17.4%	13.3%	0.0%
>10%	6.8%	0.0%	4.4%	20.0%	0.0%
What best describes your measurement system for reviewing return from supply-chain management and collaboration?					
(N)	*525*	*14*	*23*	*15*	*5*
No measurement system per se or reviews	28.6%	28.6%	17.4%	20.0%	20.0%
Ad hoc monitoring of basic measures and ad hoc reviews	32.8%	42.9%	47.8%	33.3%	40.0%
Company-specific metrics monitored regularly by operations staff	18.3%	7.1%	21.7%	26.7%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	14.7%	14.3%	8.7%	20.0%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	5.7%	7.1%	4.4%	0.0%	0.0%
Output Measures					
By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?					
(N)	*517*	*13*	*23*	*15*	*5*
<10%	58.6%	76.9%	43.5%	46.7%	80.0%
10-25%	30.0%	15.4%	47.8%	40.0%	0.0%
26-50%	9.5%	0.0%	8.7%	6.7%	20.0%
>50%	1.9%	7.7%	0.0%	6.7%	0.0%

	All Firms	Driver Industries *(NAICS)* (3115) Dairy Products	(321) Wood Products (Complete)	(322) Paper	(3256) Soap, Cleaning Compound and Toilet Prep.
How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?					
(N)	*508*	*14*	*22*	*15*	*5*
Suppliers regularly measured on cost, quality, and delivery performance	35.8%	7.1%	31.8%	20.0%	40.0%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%	7.1%	13.6%	6.7%	0.0%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and "soft" qualities (e.g., trust, flexibility)	31.5%	50.0%	27.3%	33.3%	20.0%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	17.5%	21.4%	22.7%	33.3%	40.0%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	4.7%	14.3%	4.6%	6.7%	0.0%

GREEN/SUSTAINABILITY

Rate the importance of Green/Sustainability to your organization's success over the next five years:					
(N)	*528*	*14*	*23*	*15*	*5*
1=Not important	15.7%	21.4%	13.0%	0.0%	20.0%
2	21.6%	14.3%	8.7%	0.0%	0.0%
3	29.9%	0.0%	21.7%	20.0%	60.0%
4	21.2%	50.0%	26.1%	46.7%	20.0%
5=Highly important	11.6%	14.3%	30.4%	33.3%	0.0%
Rate your organization's progress toward world-class Green/Sustainability:					
(N)	*526*	*14*	*23*	*15*	*5*
1=No progress	21.7%	21.4%	8.7%	0.0%	20.0%
2	33.7%	14.3%	21.7%	6.7%	0.0%
3	27.6%	42.9%	34.8%	40.0%	80.0%
4	14.8%	14.3%	26.1%	40.0%	0.0%
5=World-class	2.3%	7.1%	8.7%	13.3%	0.0%
Input Measures					
What percentage of your workforce is dedicated to reducing energy, material, or emissions in your operations?					
(N)	*522*	*14*	*23*	*15*	*5*
<1%	49.4%	28.6%	43.5%	20.0%	80.0%
1-5%	35.3%	35.7%	34.8%	46.7%	20.0%
6-10%	7.5%	0.0%	13.0%	20.0%	0.0%
>10%	7.9%	35.7%	8.7%	13.3%	0.0%
What percentage of the workforce is dedicated to Green products (product and packaging impact, green products and markets)?					
(N)	*521*	*13*	*23*	*15*	*5*
<1%	58.9%	46.2%	34.8%	20.0%	40.0%
1-5%	28.4%	38.5%	47.8%	46.7%	60.0%
6-10%	6.0%	0.0%	8.7%	6.7%	0.0%
>10%	6.7%	15.4%	8.7%	26.7%	0.0%

	All Firms	Driver Industries *(NAICS)* (3115) Dairy Products	(321) Wood Products (Complete)	(322) Paper	(3256) Soap, Cleaning Compound and Toilet Prep.
What best describes your measurement system for reviewing return from Green/Sustainability efforts?					
(N)	*525*	*14*	*23*	*15*	*5*
No measurement system per se or reviews	61.3%	57.1%	39.1%	33.3%	60.0%
Ad hoc monitoring of basic measures and ad hoc reviews	20.0%	14.3%	39.1%	13.3%	20.0%
Company-specific metrics monitored regularly by operations staff	7.8%	7.1%	17.4%	26.7%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	8.8%	21.4%	0.0%	20.0%	20.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.1%	0.0%	4.4%	6.7%	0.0%
Output Measures					
What is your annual reduction in energy per unit of product output?					
(N)	*515*	*13*	*23*	*15*	*5*
<10%	84.7%	84.6%	82.6%	73.3%	100.0%
10-25%	13.8%	15.4%	8.7%	20.0%	0.0%
26-50%	1.4%	0.0%	4.4%	6.7%	0.0%
>50%	0.2%	0.0%	4.4%	0.0%	0.0%
What is your annual reduction in usage of non-recycled material per unit of product output?					
(N)	*514*	*13*	*23*	*15*	*5*
<10%	80.0%	76.9%	78.3%	73.3%	100.0%
10-25%	16.0%	15.4%	21.7%	13.3%	0.0%
26-50%	3.1%	7.7%	0.0%	13.3%	0.0%
>50%	1.0%	0.0%	0.0%	0.0%	0.0%
What percentage of your products (by sales volume) are completely recyclable/reusable?					
(N)	*512*	*12*	*23*	*15*	*5*
<50%	55.7%	66.7%	56.5%	33.3%	80.0%
51-75%	10.7%	8.3%	8.7%	13.3%	20.0%
76-89%	8.2%	0.0%	0.0%	0.0%	0.0%
90-99%	16.6%	8.3%	26.1%	33.3%	0.0%
100%	8.8%	16.7%	8.7%	20.0%	0.0%
GLOBAL ENGAGEMENT					
Rate the importance of global engagement to your organization's success over the next five years:					
(N)	*526*	*14*	*23*	*15*	*5*
1=Not important	19.6%	21.4%	21.7%	13.3%	20.0%
2	20.9%	42.9%	17.4%	20.0%	0.0%
3	20.2%	21.4%	21.7%	46.7%	0.0%
4	18.3%	14.3%	21.7%	13.3%	60.0%
5=Highly important	21.1%	0.0%	17.4%	6.7%	20.0%
Rate your organization's progress toward becoming a world-class global player:					
(N)	*524*	*14*	*23*	*15*	*5*
1=No progress	29.0%	14.3%	30.4%	13.3%	20.0%
2	31.3%	64.3%	26.1%	20.0%	20.0%
3	18.5%	7.1%	17.4%	46.7%	40.0%
4	16.8%	14.3%	17.4%	20.0%	20.0%
5=World-class	4.4%	0.0%	8.7%	0.0%	0.0%

	All Firms	Driver Industries *(NAICS)* (3115) Dairy Products	(321) Wood Products (Complete)	(322) Paper	(3256) Soap, Cleaning Compound and Toilet Prep.
Input Measures					
What percentage of your total direct workforce is located overseas and/or located domestically and responsible for global business activities?					
(N)	*528*	*14*	*23*	*15*	*5*
0%	58.3%	50.0%	52.2%	66.7%	20.0%
1-25%	36.0%	50.0%	47.8%	33.3%	80.0%
26-50%	3.6%	0.0%	0.0%	0.0%	0.0%
>50%	2.1%	0.0%	0.0%	0.0%	0.0%
What best describes your measurement system for reviewing return from global engagement?					
(N)	*520*	*14*	*23*	*15*	*5*
No measurement system per se or reviews	59.8%	71.4%	52.2%	60.0%	20.0%
Ad hoc monitoring of basic measures and ad hoc reviews	16.5%	21.4%	30.4%	26.7%	40.0%
Company-specific metrics monitored regularly by operations staff	7.9%	0.0%	4.4%	0.0%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	13.1%	7.1%	8.7%	13.3%	40.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.7%	0.0%	4.4%	0.0%	0.0%
Output Measures					
By what percentage has dollar volume of sales outside the United States changed over the past three years?					
(N)	*518*	*14*	*21*	*15*	*5*
<25%	77.0%	78.6%	71.4%	100.0%	60.0%
26-50%	15.8%	21.4%	19.1%	0.0%	40.0%
51-100%	4.1%	0.0%	4.8%	0.0%	0.0%
>100%	3.1%	0.0%	4.8%	0.0%	0.0%
In how many countries outside of the United States does your organization operate or partner in production facilities?					
(N)	*520*	*14*	*22*	*15*	*5*
0	67.3%	64.3%	63.6%	66.7%	40.0%
1-5	23.9%	35.7%	31.8%	20.0%	20.0%
6-10	3.7%	0.0%	4.6%	6.7%	20.0%
>10	5.2%	0.0%	0.0%	6.7%	20.0%
In how many countries outside of the United States does your organization have sales and/or distribution facilities?					
(N)	*520*	*14*	*22*	*15*	*5*
0	62.9%	71.4%	63.6%	53.3%	40.0%
1-5	23.7%	28.6%	31.8%	26.7%	0.0%
6-10	4.8%	0.0%	0.0%	13.3%	20.0%
>10	8.7%	0.0%	4.6%	6.7%	40.0%
GOING FORWARD					
To what extent does your geographic region in Wisconsin have the support services, peer groups, training opportunities and resources available to support the following?					
Customer-focused innovation					
(N)	*526*	*14*	*23*	*15*	*5*
1=No support	10.3%	14.3%	4.4%	6.7%	20.0%
2	20.9%	28.6%	26.1%	0.0%	40.0%
3	32.7%	28.6%	47.8%	40.0%	20.0%
4	26.1%	14.3%	21.7%	33.3%	20.0%
5=Full support	10.1%	14.3%	0.0%	20.0%	0.0%

		Driver Industries *(NAICS)*			
	All Firms	*(3115)* Dairy Products	*(321)* Wood Products (Complete)	*(322)* Paper	*(3256)* Soap, Cleaning Compound and Toilet Prep.
Engaged people/Human-capital acquisition, development and retention					
(N)	*524*	*14*	*23*	*15*	*5*
1=No support	6.5%	0.0%	8.7%	0.0%	20.0%
2	23.5%	28.6%	39.1%	6.7%	40.0%
3	31.7%	42.9%	34.8%	6.7%	40.0%
4	29.4%	7.1%	17.4%	60.0%	0.0%
5=Full support	9.0%	21.4%	0.0%	26.7%	0.0%
Superior processes/Improvement focus					
(N)	*522*	*14*	*23*	*15*	*5*
1=No support	6.7%	7.1%	4.4%	0.0%	20.0%
2	17.2%	14.3%	34.8%	0.0%	0.0%
3	28.9%	35.7%	34.8%	13.3%	20.0%
4	33.3%	21.4%	21.7%	60.0%	60.0%
5=Full support	13.8%	21.4%	4.4%	26.7%	0.0%
Supply-chain management and collaboration					
(N)	*523*	*14*	*23*	*15*	*5*
1=No support	8.0%	14.3%	8.7%	0.0%	20.0%
2	23.1%	28.6%	26.1%	6.7%	0.0%
3	34.4%	21.4%	52.2%	20.0%	40.0%
4	27.0%	21.4%	13.0%	46.7%	40.0%
5=Full support	7.5%	14.3%	0.0%	26.7%	0.0%
Green/Sustainability					
(N)	*522*	*14*	*23*	*15*	*5*
1=No support	16.5%	14.3%	4.4%	0.0%	40.0%
2	29.1%	21.4%	47.8%	13.3%	0.0%
3	33.0%	35.7%	30.4%	33.3%	40.0%
4	14.8%	7.1%	17.4%	26.7%	20.0%
5=Full support	6.7%	21.4%	0.0%	26.7%	0.0%
Global engagement					
(N)	*517*	*14*	*23*	*15*	*5*
1=No support	20.7%	21.4%	26.1%	13.3%	20.0%
2	31.9%	42.9%	26.1%	13.3%	20.0%
3	30.4%	28.6%	30.4%	46.7%	40.0%
4	11.6%	7.1%	13.0%	13.3%	20.0%
5=Full support	5.4%	0.0%	4.4%	13.3%	0.0%

		Industry *(NAICS)*		
	All Firms	***(3315)* Foundries**	***(332)* Fabricated Metal Products**	***(333)* Machinery**
PROFILE				
Which of the following describes your organization?				
(N)	*527*	*15*	*88*	*124*
Company	85.6%	93.3%	90.9%	87.1%
Division/unit of a larger company	14.4%	6.7%	9.1%	12.9%
Driver Industries				
(N)	*531*	*15*	*89*	*124*
3115 - Dairy Product Manufacturing	2.6%	0.0%	0.0%	0.0%
321 - Wood Product Manufacturing (Complete)	4.3%	0.0%	0.0%	0.0%
322 - Paper Manufacturing (Complete)	2.8%	0.0%	0.0%	0.0%
3256 - Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.9%	0.0%	0.0%	0.0%
3315 - Foundries	2.8%	100.0%	0.0%	0.0%
332 - Fabricated Metal Products (Partial)	16.8%	0.0%	100.0%	0.0%
333 - Machinery Manufacturer (Partial)	23.4%	0.0%	0.0%	100.0%
3353 - Electrical Equipment Manufacturing	1.1%	0.0%	0.0%	0.0%
3359 - Other Electrical Equipment and Component Manufacturing	1.1%	0.0%	0.0%	0.0%
Other Industries	44.1%	0.0%	0.0%	0.0%
Regions				
(N)	*531*	*15*	*89*	*124*
Central	5.3%	0.0%	2.3%	4.0%
East Central	14.9%	33.3%	13.5%	12.9%
North	1.3%	0.0%	0.0%	2.4%
South	18.5%	6.7%	12.4%	19.4%
Southeast	53.9%	60.0%	66.3%	54.8%
West Central I	3.2%	0.0%	1.1%	2.4%
West Central II	1.7%	0.0%	2.3%	2.4%
No Region	1.3%	0.0%	2.3%	1.6%
How many years has your organization been in operation?				
(N)	*531*	*15*	*89*	*124*
Median	37	71	37	40
Average	44	79	40	46
75th Percentile	62	100	60	59
25th Percentile	20	60	17	22
What are your approximate annual revenues?				
(N)	*500*	*15*	*87*	*118*
Median	$14,000,000	$24,000,000	$11,000,000	$12,000,000
Average	$105,800,946	$45,400,000	$24,724,046	$107,972,297
75th Percentile	$40,000,000	$70,000,000	$28,000,000	$40,000,000
25th Percentile	$4,800,000	$12,000,000	$4,000,000	$4,000,000
How many full-time employees (and equivalents)?				
(N)	*527*	*15*	*89*	*121*
Median	68	175	52	55
Average	415	199	103	419
75th Percentile	170	325	125	123
25th Percentile	29	80	30	25
What is the age of your organization's chief executive?				
(N)	*528*	*15*	*88*	*122*
< 30	0.2%	0.0%	0.0%	0.8%
31-40	6.4%	6.7%	5.7%	10.7%
41-50	34.7%	46.7%	28.4%	34.4%
51-60	39.0%	26.7%	36.4%	36.1%
>60	19.7%	20.0%	29.6%	18.0%

	All Firms	Industry *(NAICS)* (3315) Foundries	(332) Fabricated Metal Products	(333) Machinery
Do you anticipate a planned succession of leadership in the next five years?				
(N)	*529*	*15*	*89*	*123*
Yes	22.5%	26.7%	24.7%	23.6%
Maybe	30.8%	46.7%	24.7%	30.9%
No	46.7%	26.7%	50.6%	45.5%
CUSTOMER-FOCUSED INNOVATION				
Rate the importance of customer-focused innovation to your organization's success over the next five years:				
(N)	*527*	*15*	*89*	*123*
1=Not important	1.3%	0.0%	2.3%	0.0%
2	2.7%	20.0%	2.3%	2.4%
3	10.3%	20.0%	10.1%	13.8%
4	31.3%	20.0%	40.5%	26.0%
5=Highly important	54.5%	40.0%	44.9%	57.7%
Rate your organization's progress toward world-class customer-focused innovation:				
(N)	*528*	*15*	*89*	*124*
1=No progress	3.4%	6.7%	1.1%	2.4%
2	16.5%	20.0%	15.7%	19.4%
3	36.9%	46.7%	38.2%	37.9%
4	33.7%	26.7%	34.8%	30.7%
5=World-class	9.5%	0.0%	10.1%	9.7%
Input Measures				
What percentage of your workforce is dedicated to new-product development/R&D?				
(N)	*525*	*15*	*89*	*122*
<1%	22.1%	26.7%	16.9%	21.3%
1-5%	48.4%	60.0%	52.8%	45.9%
6-10%	16.4%	13.3%	19.1%	18.0%
>10%	13.1%	0.0%	11.2%	14.8%
What percentage of sales is invested into new-product development/R&D?				
(N)	*525*	*15*	*88*	*123*
<1%	25.5%	6.7%	20.5%	27.6%
1-5%	47.8%	73.3%	50.0%	48.8%
6-10%	15.1%	0.0%	17.1%	13.0%
>10%	11.6%	20.0%	12.5%	10.6%
What best describes your measurement system for reviewing return from custom-focused innovation?				
(N)	*527*	*15*	*89*	*121*
No measurement system per se or reviews	31.7%	33.3%	39.3%	34.7%
Ad hoc monitoring of basic measures and ad hoc reviews	30.7%	26.7%	19.1%	31.4%
Company-specific metrics monitored regularly by operations staff	9.9%	13.3%	13.5%	9.9%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.0%	6.7%	19.1%	15.7%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.7%	20.0%	9.0%	8.3%

		Industry *(NAICS)*		
	All Firms	*(3315)* Foundries	*(332)* Fabricated Metal Products	*(333)* Machinery
Output Measures				
How many new products as a percentage of total SKUs are launched annually (count only new SKUs, not a product iteration or line extension)?				
(N)	*520*	*15*	*87*	*119*
<5%	56.5%	40.0%	60.9%	57.1%
5-10%	27.1%	53.3%	28.7%	25.2%
11-20%	11.4%	6.7%	6.9%	12.6%
>20%	5.0%	0.0%	3.5%	5.0%
Approximately what percentage of annual sales are derived from products introduced in the past three years?				
(N)	*524*	*15*	*88*	*122*
<5%	26.3%	33.3%	33.0%	22.1%
5-25%	47.0%	46.7%	43.2%	45.1%
26-50%	19.3%	20.0%	17.1%	22.1%
>50%	7.4%	0.0%	6.8%	10.7%
ENGAGED PEOPLE/HUMAN-CAPITAL ACQUISITION, DEVELOPMENT AND RETENTION				
Rate the importance of human-capital acquisition, development and retention to your organization's success over the next five years:				
(N)	*530*	*15*	*89*	*124*
1=Not important	1.3%	0.0%	0.0%	0.8%
2	3.2%	0.0%	0.0%	4.0%
3	14.0%	26.7%	12.4%	16.9%
4	32.1%	33.3%	33.7%	27.4%
5=Highly important	49.4%	40.0%	53.9%	50.8%
Rate your organization's progress toward world-class human-capital acquisition, development and retention:				
(N)	*526*	*15*	*89*	*123*
1=No progress	7.8%	0.0%	6.7%	8.1%
2	23.2%	26.7%	14.6%	26.8%
3	40.1%	40.0%	46.1%	39.8%
4	23.8%	33.3%	24.7%	19.5%
5=World-class	5.1%	0.0%	7.9%	5.7%
Input Measures				
What percentage of employees regularly participate in empowered work teams (i.e., make decisions without supervisor approval?				
(N)	*529*	*15*	*88*	*124*
<25%	39.9%	66.7%	43.2%	36.3%
25-50%	30.3%	26.7%	28.4%	33.9%
51-75%	14.9%	0.0%	14.8%	16.9%
76-90%	9.6%	6.7%	10.2%	7.3%
>90%	5.3%	0.0%	3.4%	5.7%
How many formal training hours are devoted annually to each employee?				
(N)	*528*	*15*	*88*	*124*
8 or fewer	29.0%	20.0%	28.4%	33.9%
9-20	43.0%	60.0%	46.6%	36.3%
21-40	18.4%	13.3%	17.1%	16.9%
>40	9.7%	6.7%	8.0%	12.9%

	All Firms	Industry *(NAICS)* *(3315)* Foundries	*(332)* Fabricated Metal Products	*(333)* Machinery
What percentage of employees are dedicated to assessing and upgrading your organization's talent pool?				
(N)	*528*	*15*	*89*	*124*
<1%	27.8%	13.3%	21.4%	30.7%
1-5%	49.4%	73.3%	51.7%	45.2%
6-10%	14.4%	13.3%	15.7%	16.9%
>10%	8.3%	0.0%	11.2%	7.3%
What best describes your measurement system for reviewing return from human-capital acquisition, development and retention?				
(N)	*527*	*15*	*88*	*123*
No measurement system per se or reviews	28.3%	33.3%	25.0%	33.3%
Ad hoc monitoring of basic measures and ad hoc reviews	35.7%	26.7%	34.1%	35.0%
Company-specific metrics monitored regularly by operations staff	13.5%	26.7%	10.2%	8.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.2%	6.7%	27.3%	17.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	4.4%	6.7%	3.4%	6.5%
Output Measures				
What is your value-added per employee ([sales – cost of materials] ÷ number of employees)?				
(N)	*508*	*15*	*86*	*121*
< $75,000	32.3%	33.3%	29.1%	28.1%
$75,000-$125,000	39.4%	33.3%	45.4%	41.3%
$125,001-$175,000	18.1%	20.0%	17.4%	19.0%
> $175,000	10.2%	13.3%	8.1%	11.6%
What is your organization's annual labor turnover rate (number of voluntary and involuntary separations ÷ typical staffing level)?				
(N)	*520*	*15*	*86*	*122*
0%	5.2%	6.7%	7.0%	4.9%
0.1-1%	17.9%	13.3%	17.4%	25.4%
1.1-5%	32.9%	20.0%	30.2%	34.4%
5.1-10%	28.1%	40.0%	30.2%	23.8%
>10%	16.0%	20.0%	15.1%	11.5%
SUPERIOR PROCESSES/IMPROVEMENT FOCUS				
Rate the importance of process improvement to your organization's success over the next five years:				
(N)	*530*	*15*	*89*	*124*
1=Not important	0.8%	0.0%	0.0%	0.8%
2	1.9%	6.7%	0.0%	1.6%
3	9.8%	13.3%	6.7%	10.5%
4	26.4%	26.7%	27.0%	24.2%
5=Highly important	61.1%	53.3%	66.3%	62.9%
Rate your organization's progress toward world-class processes and process improvement:				
(N)	*528*	*15*	*89*	*124*
1=No progress	3.6%	0.0%	1.1%	5.7%
2	16.9%	13.3%	12.4%	19.4%
3	37.7%	46.7%	36.0%	35.5%
4	34.5%	40.0%	39.3%	34.7%
5=World-class	7.4%	0.0%	11.2%	4.8%

		Industry *(NAICS)*		
	All Firms	***(3315)* Foundries**	***(332)* Fabricated Metal Products**	***(333)* Machinery**
Input Measures				
What percentage of your workforce has been fully engaged in your organization's specific improvement method/approach?				
(N)	*527*	*15*	*89*	*122*
<26%	32.6%	53.3%	30.3%	32.8%
26-50%	22.8%	20.0%	25.8%	19.7%
51-75%	18.0%	13.3%	12.4%	19.7%
76-99%	17.7%	13.3%	27.0%	17.2%
100%	8.9%	0.0%	4.5%	10.7%
What is your organization's investment in capital equipment as a percentage of sales (three-year average)?				
(N)	*526*	*15*	*89*	*123*
<1%	7.6%	6.7%	6.7%	7.3%
1-5%	51.5%	46.7%	37.1%	59.4%
6-10%	25.7%	40.0%	34.8%	24.4%
>10%	15.2%	6.7%	21.4%	8.9%
What best describes your measurement system for reviewing return from process improvements?				
(N)	*524*	*15*	*88*	*122*
No measurement system per se or reviews	15.3%	6.7%	14.8%	18.9%
Ad hoc monitoring of basic measures and ad hoc reviews	28.2%	6.7%	25.0%	34.4%
Company-specific metrics monitored regularly by operations staff	21.4%	60.0%	15.9%	16.4%
Regular monitoring and review of company-specific metrics by CEO and senior staff	22.7%	6.7%	29.6%	18.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	12.4%	20.0%	14.8%	12.3%
Output Measures				
What percentage of deliveries reach customers in perfect order (on time, high quality, to all customer specifications)?				
(N)	*525*	*15*	*88*	*122*
<80%	8.6%	13.3%	9.1%	14.8%
80-90%	16.0%	26.7%	13.6%	19.7%
91-95%	23.6%	20.0%	29.6%	23.0%
96-98%	26.5%	20.0%	29.6%	16.4%
>98%	25.3%	20.0%	18.2%	26.2%
Describe your customers' satisfaction with your overall performance?				
(N)	*524*	*15*	*88*	*120*
Threatens to pull business because we don't match the competition	1.7%	0.0%	1.1%	0.8%
Indifferent to buying our product or competitors	5.2%	6.7%	4.6%	10.0%
Preference for our products by virtue of price, quality, and delivery performance	47.1%	66.7%	54.6%	43.3%
Strong loyalty to our products due to ongoing trust in our organization's people and capabilities	46.0%	26.7%	39.8%	45.8%
By what percentage has productivity (i.e., value add) improved over the past three years?				
(N)	*518*	*15*	*85*	*120*
<25%	48.1%	46.7%	40.0%	50.0%
26-50	33.0%	26.7%	40.0%	25.0%
51-75%	12.9%	20.0%	11.8%	19.2%
76-99%	5.0%	6.7%	7.1%	5.0%
>100%	1.0%	0.0%	1.2%	0.8%

	All Firms	Industry *(NAICS)* (3315) Foundries	(332) Fabricated Metal Products	(333) Machinery
SUPPLY-CHAIN MANAGEMENT & COLLABORATION				
Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:				
(N)	*527*	*15*	*89*	*123*
1=Not important	4.7%	0.0%	2.3%	4.9%
2	8.5%	20.0%	6.7%	12.2%
3	19.9%	46.7%	18.0%	22.0%
4	31.3%	20.0%	32.6%	36.6%
5=Highly important	35.5%	13.3%	40.5%	24.4%
Rate your organization's progress toward world-class supply-chain management and collaboration:				
(N)	*524*	*15*	*88*	*123*
1=No progress	9.4%	6.7%	4.6%	13.0%
2	25.6%	33.3%	31.8%	28.5%
3	40.3%	60.0%	36.4%	39.8%
4	21.8%	0.0%	25.0%	17.9%
5=World-class	3.1%	0.0%	2.3%	0.8%
Input Measures				
What percentage of your workforce is dedicated to supply-chain and partner development, management, and collaboration?				
(N)	*523*	*14*	*88*	*123*
<1%	26.2%	35.7%	23.9%	31.7%
1-5%	51.8%	57.1%	54.6%	50.4%
6-10%	15.5%	7.1%	18.2%	12.2%
>10%	6.5%	0.0%	3.4%	5.7%
What is your organization's investment in information technologies (hardware and software) as a percentage of sales (three-year average)?				
(N)	*528*	*15*	*89*	*123*
<1%	30.7%	26.7%	24.7%	33.3%
1-5%	49.4%	60.0%	51.7%	51.2%
6-10%	13.1%	13.3%	13.5%	12.2%
>10%	6.8%	0.0%	10.1%	3.3%
What best describes your measurement system for reviewing return from supply-chain management and collaboration?				
(N)	*525*	*14*	*88*	*122*
No measurement system per se or reviews	28.6%	7.1%	27.3%	36.1%
Ad hoc monitoring of basic measures and ad hoc reviews	32.8%	35.7%	28.4%	31.2%
Company-specific metrics monitored regularly by operations staff	18.3%	35.7%	15.9%	18.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	14.7%	7.1%	21.6%	9.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	5.7%	14.3%	6.8%	4.9%
Output Measures				
By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?				
(N)	*517*	*14*	*88*	*118*
<10%	58.6%	50.0%	52.3%	67.0%
10-25%	30.0%	35.7%	36.4%	25.4%
26-50%	9.5%	7.1%	9.1%	7.6%
>50%	1.9%	7.1%	2.3%	0.0%

	All Firms	Industry *(NAICS)* (3315) Foundries	(332) Fabricated Metal Products	(333) Machinery
How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?				
(N)	*508*	*15*	*89*	*113*
Suppliers regularly measured on cost, quality, and delivery performance	35.8%	33.3%	37.1%	36.3%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%	13.3%	11.2%	12.4%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and "soft" qualities (e.g., trust, flexibility)	31.5%	33.3%	39.3%	34.5%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	17.5%	20.0%	11.2%	14.2%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	4.7%	0.0%	1.1%	2.7%

GREEN/SUSTAINABILITY

Rate the importance of Green/Sustainability to your organization's success over the next five years:				
(N)	*528*	*15*	*89*	*123*
1=Not important	15.7%	6.7%	18.0%	22.8%
2	21.6%	20.0%	20.2%	26.0%
3	29.9%	46.7%	37.1%	29.3%
4	21.2%	20.0%	15.7%	15.5%
5=Highly important	11.6%	6.7%	9.0%	6.5%
Rate your organization's progress toward world-class Green/Sustainability:				
(N)	*526*	*15*	*88*	*123*
1=No progress	21.7%	13.3%	22.7%	32.5%
2	33.7%	33.3%	43.2%	33.3%
3	27.6%	40.0%	22.7%	26.0%
4	14.8%	6.7%	11.4%	7.3%
5=World-class	2.3%	6.7%	0.0%	0.8%
Input Measures				
What percentage of your workforce is dedicated to reducing energy, material, or emissions in your operations?				
(N)	*522*	*15*	*88*	*121*
<1%	49.4%	40.0%	53.4%	62.8%
1-5%	35.3%	60.0%	29.6%	29.8%
6-10%	7.5%	0.0%	6.8%	5.0%
>10%	7.9%	0.0%	10.2%	2.5%
What percentage of the workforce is dedicated to Green products (product and packaging impact, green products and markets)?				
(N)	*521*	*15*	*88*	*121*
<1%	58.9%	73.3%	60.2%	71.1%
1-5%	28.4%	20.0%	27.3%	20.7%
6-10%	6.0%	6.7%	8.0%	5.0%
>10%	6.7%	0.0%	4.6%	3.3%

	All Firms	Industry *(NAICS)* *(3315)* Foundries	*(332)* Fabricated Metal Products	*(333)* Machinery
What best describes your measurement system for reviewing return from Green/Sustainability efforts?				
(N)	*525*	*15*	*88*	*122*
No measurement system per se or reviews	61.3%	60.0%	63.6%	71.3%
Ad hoc monitoring of basic measures and ad hoc reviews	20.0%	26.7%	22.7%	14.8%
Company-specific metrics monitored regularly by operations staff	7.8%	6.7%	3.4%	6.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff	8.8%	6.7%	9.1%	7.4%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.1%	0.0%	1.1%	0.0%
Output Measures				
What is your annual reduction in energy per unit of product output?				
(N)	*515*	*15*	*87*	*119*
<10%	84.7%	73.3%	83.9%	92.4%
10-25%	13.8%	26.7%	16.1%	6.7%
26-50%	1.4%	0.0%	0.0%	0.8%
>50%	0.2%	0.0%	0.0%	0.0%
What is your annual reduction in usage of non-recycled material per unit of product output?				
(N)	*514*	*15*	*87*	*119*
<10%	80.0%	80.0%	70.1%	87.4%
10-25%	16.0%	13.3%	27.6%	10.9%
26-50%	3.1%	0.0%	2.3%	1.7%
>50%	1.0%	6.7%	0.0%	0.0%
What percentage of your products (by sales volume) are completely recyclable/reusable?				
(N)	*512*	*15*	*87*	*116*
<50%	55.7%	0.0%	52.9%	62.1%
51-75%	10.7%	6.7%	11.5%	9.5%
76-89%	8.2%	26.7%	6.9%	11.2%
90-99%	16.6%	26.7%	19.5%	14.7%
100%	8.8%	40.0%	9.2%	2.6%
GLOBAL ENGAGEMENT				
Rate the importance of global engagement to your organization's success over the next five years:				
(N)	*526*	*15*	*89*	*122*
1=Not important	19.6%	6.7%	23.6%	14.8%
2	20.9%	46.7%	19.1%	23.0%
3	20.2%	13.3%	22.5%	19.7%
4	18.3%	20.0%	13.5%	14.8%
5=Highly important	21.1%	13.3%	21.4%	27.9%
Rate your organization's progress toward becoming a world-class global player:				
(N)	*524*	*15*	*88*	*122*
1=No progress	29.0%	20.0%	31.8%	32.0%
2	31.3%	53.3%	29.6%	27.9%
3	18.5%	13.3%	18.2%	14.8%
4	16.8%	13.3%	13.6%	20.5%
5=World-class	4.4%	0.0%	6.8%	4.9%

	All Firms	Industry *(NAICS)* (3315) Foundries	(332) Fabricated Metal Products	(333) Machinery
Input Measures				
What percentage of your total direct workforce is located overseas and/or located domestically and responsible for global business activities?				
(N)	*528*	*15*	*89*	*124*
0%	58.3%	53.3%	62.9%	54.8%
1-25%	36.0%	46.7%	33.7%	33.1%
26-50%	3.6%	0.0%	2.3%	7.3%
>50%	2.1%	0.0%	1.1%	4.8%
What best describes your measurement system for reviewing return from global engagement?				
(N)	*520*	*15*	*87*	*118*
No measurement system per se or reviews	59.8%	73.3%	69.0%	60.2%
Ad hoc monitoring of basic measures and ad hoc reviews	16.5%	6.7%	12.6%	14.4%
Company-specific metrics monitored regularly by operations staff	7.9%	13.3%	5.8%	7.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff	13.1%	6.7%	9.2%	15.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.7%	0.0%	3.5%	2.5%
Output Measures				
By what percentage has dollar volume of sales outside the United States changed over the past three years?				
(N)	*518*	*15*	*87*	*121*
<25%	77.0%	86.7%	77.0%	76.0%
26-50%	15.8%	13.3%	17.2%	16.5%
51-100%	4.1%	0.0%	4.6%	4.1%
>100%	3.1%	0.0%	1.2%	3.3%
In how many countries outside of the United States does your organization operate or partner in production facilities?				
(N)	*520*	*15*	*88*	*121*
0	67.3%	60.0%	77.3%	65.3%
1-5	23.9%	40.0%	17.1%	16.5%
6-10	3.7%	0.0%	3.4%	7.4%
>10	5.2%	0.0%	2.3%	10.7%
In how many countries outside of the United States does your organization have sales and/or distribution facilities?				
(N)	*520*	*15*	*88*	*120*
0	62.9%	73.3%	69.3%	58.3%
1-5	23.7%	20.0%	27.3%	19.2%
6-10	4.8%	0.0%	2.3%	9.2%
>10	8.7%	6.7%	1.1%	13.3%
GOING FORWARD				
To what extent does your geographic region in Wisconsin have the support services, peer groups, training opportunities and resources available to support the following?				
Customer-focused innovation				
(N)	*526*	*15*	*88*	*123*
1=No support	10.3%	13.3%	9.1%	13.0%
2	20.9%	20.0%	19.3%	22.0%
3	32.7%	33.3%	35.2%	30.9%
4	26.1%	26.7%	22.7%	26.0%
5=Full support	10.1%	6.7%	13.6%	8.1%

		Industry *(NAICS)*		
	All Firms	***(3315)* Foundries**	***(332)* Fabricated Metal Products**	***(333)* Machinery**
Engaged people/Human-capital acquisition, development and retention				
(N)	*524*	*15*	*88*	*122*
1=No support	6.5%	6.7%	4.6%	8.2%
2	23.5%	40.0%	15.9%	21.3%
3	31.7%	26.7%	40.9%	35.3%
4	29.4%	26.7%	27.3%	30.3%
5=Full support	9.0%	0.0%	11.4%	4.9%
Superior processes/Improvement focus				
(N)	*522*	*15*	*87*	*122*
1=No support	6.7%	13.3%	6.9%	6.6%
2	17.2%	26.7%	8.1%	19.7%
3	28.9%	40.0%	35.6%	29.5%
4	33.3%	0.0%	33.3%	33.6%
5=Full support	13.8%	20.0%	16.1%	10.7%
Supply-chain management and collaboration				
(N)	*523*	*15*	*88*	*121*
1=No support	8.0%	0.0%	6.8%	10.7%
2	23.1%	46.7%	21.6%	22.3%
3	34.4%	20.0%	36.4%	33.1%
4	27.0%	33.3%	27.3%	28.9%
5=Full support	7.5%	0.0%	8.0%	5.0%
Green/Sustainability				
(N)	*522*	*15*	*88*	*120*
1=No support	16.5%	26.7%	12.5%	20.8%
2	29.1%	33.3%	31.8%	27.5%
3	33.0%	26.7%	37.5%	33.3%
4	14.8%	13.3%	9.1%	15.0%
5=Full support	6.7%	0.0%	9.1%	3.3%
Global engagement				
(N)	*517*	*15*	*85*	*119*
1=No support	20.7%	40.0%	16.5%	18.5%
2	31.9%	33.3%	29.4%	34.5%
3	30.4%	20.0%	30.6%	31.1%
4	11.6%	6.7%	14.1%	12.6%
5=Full support	5.4%	0.0%	9.4%	3.4%

		Industry *(NAICS)*		
	All Firms	*(3353)* Electrical Equipment	*(3359)* Other Electrical Equipment and Components	Other Industries
PROFILE				
Which of the following describes your organization?				
(N)	*527*	*6*	*6*	*233*
Company	85.6%	66.7%	100.0%	84.1%
Division/unit of a larger company	14.4%	33.3%	0.0%	15.9%
Driver Industries				
(N)	*531*	*6*	*6*	*234*
3115 - Dairy Product Manufacturing	2.6%	0.0%	0.0%	0.0%
321 - Wood Product Manufacturing (Complete)	4.3%	0.0%	0.0%	0.0%
322 - Paper Manufacturing (Complete)	2.8%	0.0%	0.0%	0.0%
3256 - Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.9%	0.0%	0.0%	0.0%
3315 - Foundries	2.8%	0.0%	0.0%	0.0%
332 - Fabricated Metal Products (Partial)	16.8%	0.0%	0.0%	0.0%
333 - Machinery Manufacturer (Partial)	23.4%	0.0%	0.0%	0.0%
3353 - Electrical Equipment Manufacturing	1.1%	100.0%	0.0%	0.0%
3359 - Other Electrical Equipment and Component Manufacturing	1.1%	0.0%	100.0%	0.0%
Other Industries	44.1%	0.0%	0.0%	100.0%
Regions				
(N)	*531*	*6*	*6*	*234*
Central	5.3%	16.7%	16.7%	5.1%
East Central	14.9%	0.0%	0.0%	14.1%
North	1.3%	0.0%	0.0%	0.9%
South	18.5%	16.7%	33.3%	19.7%
Southeast	53.9%	66.7%	50.0%	52.6%
West Central I	3.2%	0.0%	0.0%	4.7%
West Central II	1.7%	0.0%	0.0%	1.7%
No Region	1.3%	0.0%	0.0%	1.3%
How many years has your organization been in operation?				
(N)	*531*	*6*	*6*	*234*
Median	37	57	17	32
Average	44	58	38	42
75th Percentile	62	*	*	56
25th Percentile	20	*	*	18
What are your approximate annual revenues?				
(N)	*500*	*6*	*6*	*215*
Median	$14,000,000	$15,250,000	$3,500,000	$14,000,000
Average	$105,800,946	$21,283,333	$8,041,667	$154,825,349
75th Percentile	$40,000,000	*	*	$40,000,000
25th Percentile	$4,800,000	*	*	$4,000,000
How many full-time employees (and equivalents)?				
(N)	*527*	*6*	*6*	*233*
Median	68	105	37	70
Average	415	100	76	538
75th Percentile	170	*	*	198
25th Percentile	29	*	*	25
What is the age of your organization's chief executive?				
(N)	*528*	*6*	*6*	*234*
< 30	0.2%	0.0%	0.0%	0.0%
31-40	6.4%	0.0%	0.0%	5.1%
41-50	34.7%	33.3%	16.7%	36.8%
51-60	39.0%	33.3%	50.0%	41.5%
>60	19.7%	33.3%	33.3%	16.7%

	All Firms	Industry *(NAICS)* (3353) Electrical Equipment	(3359) Other Electrical Equipment and Components	Other Industries
Do you anticipate a planned succession of leadership in the next five years?				
(N)	*529*	*6*	*6*	*233*
Yes	22.5%	0.0%	16.7%	22.8%
Maybe	30.8%	16.7%	33.3%	31.8%
No	46.7%	83.3%	50.0%	45.5%
CUSTOMER-FOCUSED INNOVATION				
Rate the importance of customer-focused innovation to your organization's success over the next five years:				
(N)	*527*	*6*	*6*	*231*
1=Not important	1.3%	0.0%	0.0%	1.7%
2	2.7%	0.0%	0.0%	1.3%
3	10.3%	0.0%	16.7%	10.0%
4	31.3%	33.3%	33.3%	32.9%
5=Highly important	54.5%	66.7%	50.0%	54.1%
Rate your organization's progress toward world-class customer-focused innovation:				
(N)	*528*	*6*	*6*	*231*
1=No progress	3.4%	16.7%	0.0%	4.8%
2	16.5%	16.7%	0.0%	16.0%
3	36.9%	16.7%	0.0%	36.8%
4	33.7%	50.0%	100.0%	33.3%
5=World-class	9.5%	0.0%	0.0%	9.1%
Input Measures				
What percentage of your workforce is dedicated to new-product development/R&D?				
(N)	*525*	*6*	*6*	*230*
<1%	22.1%	33.3%	33.3%	23.0%
1-5%	48.4%	66.7%	50.0%	45.2%
6-10%	16.4%	0.0%	16.7%	15.7%
>10%	13.1%	0.0%	0.0%	16.1%
What percentage of sales is invested into new-product development/R&D?				
(N)	*525*	*6*	*6*	*230*
<1%	25.5%	33.3%	16.7%	27.0%
1-5%	47.8%	66.7%	66.7%	44.4%
6-10%	15.1%	0.0%	16.7%	16.1%
>10%	11.6%	0.0%	0.0%	12.6%
What best describes your measurement system for reviewing return from custom-focused innovation?				
(N)	*527*	*6*	*6*	*233*
No measurement system per se or reviews	31.7%	50.0%	16.7%	28.3%
Ad hoc monitoring of basic measures and ad hoc reviews	30.7%	33.3%	50.0%	33.9%
Company-specific metrics monitored regularly by operations staff	9.9%	0.0%	0.0%	8.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.0%	0.0%	16.7%	19.7%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.7%	16.7%	16.7%	9.4%

	All Firms	Industry *(NAICS)* (3353) Electrical Equipment	(3359) Other Electrical Equipment and Components	Other Industries
Output Measures				
How many new products as a percentage of total SKUs are launched annually (count only new SKUs, not a product iteration or line extension)?				
(N)	*520*	*5*	*6*	*231*
<5%	56.5%	40.0%	100.0%	55.8%
5-10%	27.1%	40.0%	0.0%	26.0%
11-20%	11.4%	20.0%	0.0%	11.7%
>20%	5.0%	0.0%	0.0%	6.5%
Approximately what percentage of annual sales are derived from products introduced in the past three years?				
(N)	*524*	*6*	*6*	*232*
<5%	26.3%	0.0%	33.3%	25.4%
5-25%	47.0%	66.7%	66.7%	48.7%
26-50%	19.3%	33.3%	0.0%	19.4%
>50%	7.4%	0.0%	0.0%	6.5%
ENGAGED PEOPLE/HUMAN-CAPITAL ACQUISITION, DEVELOPMENT AND RETENTION				
Rate the importance of human-capital acquisition, development and retention to your organization's success over the next five years:				
(N)	*530*	*6*	*6*	*233*
1=Not important	1.3%	0.0%	0.0%	2.2%
2	3.2%	0.0%	0.0%	3.0%
3	14.0%	33.3%	0.0%	13.7%
4	32.1%	33.3%	66.7%	32.6%
5=Highly important	49.4%	33.3%	33.3%	48.5%
Rate your organization's progress toward world-class human-capital acquisition, development and retention:				
(N)	*526*	*6*	*6*	*231*
1=No progress	7.8%	0.0%	0.0%	9.5%
2	23.2%	50.0%	0.0%	23.4%
3	40.1%	33.3%	33.3%	40.7%
4	23.8%	16.7%	66.7%	22.5%
5=World-class	5.1%	0.0%	0.0%	3.9%
Input Measures				
What percentage of employees regularly participate in empowered work teams (i.e., make decisions without supervisor approval?				
(N)	*529*	*6*	*6*	*233*
<25%	39.9%	16.7%	50.0%	39.9%
25-50%	30.3%	50.0%	16.7%	28.8%
51-75%	14.9%	16.7%	0.0%	15.0%
76-90%	9.6%	16.7%	16.7%	9.9%
>90%	5.3%	0.0%	16.7%	6.4%
How many formal training hours are devoted annually to each employee?				
(N)	*528*	*6*	*6*	*232*
8 or fewer	29.0%	16.7%	16.7%	29.3%
9-20	43.0%	66.7%	83.3%	42.2%
21-40	18.4%	16.7%	0.0%	19.4%
>40	9.7%	0.0%	0.0%	9.1%

	All Firms	Industry *(NAICS)* (3353) Electrical Equipment	(3359) Other Electrical Equipment and Components	Other Industries
What percentage of employees are dedicated to assessing and upgrading your organization's talent pool?				
(N)	*528*	*6*	*6*	*232*
<1%	27.8%	33.3%	0.0%	28.9%
1-5%	49.4%	66.7%	83.3%	48.7%
6-10%	14.4%	0.0%	16.7%	12.9%
>10%	8.3%	0.0%	0.0%	9.5%
What best describes your measurement system for reviewing return from human-capital acquisition, development and retention?				
(N)	*527*	*6*	*6*	*232*
No measurement system per se or reviews	28.3%	50.0%	0.0%	27.2%
Ad hoc monitoring of basic measures and ad hoc reviews	35.7%	50.0%	50.0%	36.6%
Company-specific metrics monitored regularly by operations staff	13.5%	0.0%	16.7%	15.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.2%	0.0%	16.7%	18.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	4.4%	0.0%	16.7%	3.0%
Output Measures				
What is your value-added per employee ([sales – cost of materials] ÷ number of employees)?				
(N)	*508*	*6*	*6*	*221*
< $75,000	32.3%	50.0%	33.3%	32.1%
$75,000-$125,000	39.4%	16.7%	66.7%	38.9%
$125,001-$175,000	18.1%	16.7%	0.0%	19.5%
> $175,000	10.2%	16.7%	0.0%	9.5%
What is your organization's annual labor turnover rate (number of voluntary and involuntary separations ÷ typical staffing level)?				
(N)	*520*	*6*	*6*	*228*
0%	5.2%	0.0%	0.0%	5.3%
0.1-1%	17.9%	0.0%	16.7%	16.7%
1.1-5%	32.9%	66.7%	33.3%	32.0%
5.1-10%	28.1%	33.3%	16.7%	28.1%
>10%	16.0%	0.0%	33.3%	18.0%
SUPERIOR PROCESSES/IMPROVEMENT FOCUS				
Rate the importance of process improvement to your organization's success over the next five years:				
(N)	*530*	*6*	*6*	*233*
1=Not important	0.8%	0.0%	0.0%	0.9%
2	1.9%	0.0%	0.0%	1.3%
3	9.8%	0.0%	16.7%	9.4%
4	26.4%	16.7%	33.3%	27.9%
5=Highly important	61.1%	83.3%	50.0%	60.5%
Rate your organization's progress toward world-class processes and process improvement:				
(N)	*528*	*6*	*6*	*232*
1=No progress	3.6%	0.0%	0.0%	3.5%
2	16.9%	16.7%	16.7%	16.8%
3	37.7%	33.3%	50.0%	38.4%
4	34.5%	16.7%	33.3%	34.5%
5=World-class	7.4%	33.3%	0.0%	6.9%

		Industry *(NAICS)*		
	All Firms	*(3353)* Electrical Equipment	*(3359)* Other Electrical Equipment and Components	Other Industries
Input Measures				
What percentage of your workforce has been fully engaged in your organization's specific improvement method/approach?				
(N)	*527*	*6*	*6*	*232*
<26%	32.6%	0.0%	0.0%	32.3%
26-50%	22.8%	50.0%	33.3%	22.8%
51-75%	18.0%	16.7%	16.7%	20.7%
76-99%	17.7%	33.3%	33.3%	14.7%
100%	8.9%	0.0%	16.7%	9.5%
What is your organization's investment in capital equipment as a percentage of sales (three-year average)?				
(N)	*526*	*6*	*6*	*231*
<1%	7.6%	0.0%	16.7%	9.1%
1-5%	51.5%	83.3%	66.7%	48.5%
6-10%	25.7%	16.7%	0.0%	24.7%
>10%	15.2%	0.0%	16.7%	17.8%
What best describes your measurement system for reviewing return from process improvements?				
(N)	*524*	*6*	*6*	*230*
No measurement system per se or reviews	15.3%	33.3%	0.0%	15.2%
Ad hoc monitoring of basic measures and ad hoc reviews	28.2%	16.7%	50.0%	26.1%
Company-specific metrics monitored regularly by operations staff	21.4%	33.3%	0.0%	24.8%
Regular monitoring and review of company-specific metrics by CEO and senior staff	22.7%	0.0%	50.0%	22.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	12.4%	16.7%	0.0%	11.3%
Output Measures				
What percentage of deliveries reach customers in perfect order (on time, high quality, to all customer specifications)?				
(N)	*525*	*6*	*6*	*231*
<80%	8.6%	33.3%	33.3%	5.2%
80-90%	16.0%	16.7%	0.0%	14.7%
91-95%	23.6%	0.0%	16.7%	22.1%
96-98%	26.5%	16.7%	33.3%	29.4%
>98%	25.3%	33.3%	16.7%	28.6%
Describe your customers' satisfaction with your overall performance?				
(N)	*524*	*6*	*6*	*232*
Threatens to pull business because we don't match the competition	1.7%	0.0%	0.0%	2.6%
Indifferent to buying our product or competitors	5.2%	16.7%	0.0%	3.5%
Preference for our products by virtue of price, quality, and delivery performance	47.1%	33.3%	50.0%	46.6%
Strong loyalty to our products due to ongoing trust in our organization's people and capabilities	46.0%	50.0%	50.0%	47.4%
By what percentage has productivity (i.e., value add) improved over the past three years?				
(N)	*518*	*6*	*6*	*230*
<25%	48.1%	0.0%	83.3%	49.1%
26-50	33.0%	66.7%	16.7%	34.8%
51-75%	12.9%	33.3%	0.0%	10.4%
76-99%	5.0%	0.0%	0.0%	4.8%
>100%	1.0%	0.0%	0.0%	0.9%

	All Firms	Industry *(NAICS)* (3353) Electrical Equipment	(3359) Other Electrical Equipment and Components	Other Industries
SUPPLY-CHAIN MANAGEMENT & COLLABORATION				
Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:				
(N)	*527*	*6*	*6*	*232*
1=Not important	4.7%	0.0%	0.0%	5.2%
2	8.5%	0.0%	16.7%	6.9%
3	19.9%	33.3%	0.0%	18.5%
4	31.3%	16.7%	33.3%	29.3%
5=Highly important	35.5%	50.0%	50.0%	40.1%
Rate your organization's progress toward world-class supply-chain management and collaboration:				
(N)	*524*	*6*	*6*	*231*
1=No progress	9.4%	0.0%	0.0%	9.5%
2	25.6%	33.3%	16.7%	22.9%
3	40.3%	33.3%	50.0%	40.7%
4	21.8%	33.3%	33.3%	22.1%
5=World-class	3.1%	0.0%	0.0%	4.8%
Input Measures				
What percentage of your workforce is dedicated to supply-chain and partner development, management, and collaboration?				
(N)	*523*	*6*	*6*	*230*
<1%	26.2%	50.0%	0.0%	22.6%
1-5%	51.8%	50.0%	50.0%	51.3%
6-10%	15.5%	0.0%	33.3%	17.0%
>10%	6.5%	0.0%	16.7%	9.1%
What is your organization's investment in information technologies (hardware and software) as a percentage of sales (three-year average)?				
(N)	*528*	*6*	*6*	*232*
<1%	30.7%	16.7%	16.7%	30.2%
1-5%	49.4%	83.3%	16.7%	49.6%
6-10%	13.1%	0.0%	33.3%	12.9%
>10%	6.8%	0.0%	33.3%	7.3%
What best describes your measurement system for reviewing return from supply-chain management and collaboration?				
(N)	*525*	*6*	*6*	*232*
No measurement system per se or reviews	28.6%	66.7%	0.0%	28.0%
Ad hoc monitoring of basic measures and ad hoc reviews	32.8%	16.7%	33.3%	33.2%
Company-specific metrics monitored regularly by operations staff	18.3%	16.7%	16.7%	18.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff	14.7%	0.0%	50.0%	14.7%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	5.7%	0.0%	0.0%	6.0%
Output Measures				
By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?				
(N)	*517*	*6*	*6*	*229*
<10%	58.6%	50.0%	66.7%	58.1%
10-25%	30.0%	33.3%	33.3%	28.4%
26-50%	9.5%	16.7%	0.0%	11.4%
>50%	1.9%	0.0%	0.0%	2.2%

	All Firms	Industry *(NAICS)* (3353) Electrical Equipment	(3359) Other Electrical Equipment and Components	Other Industries
How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?				
(N)	*508*	*5*	*5*	*225*
Suppliers regularly measured on cost, quality, and delivery performance	35.8%	60.0%	20.0%	38.2%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%	0.0%	40.0%	8.9%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and "soft" qualities (e.g., trust, flexibility)	31.5%	20.0%	40.0%	26.2%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	17.5%	20.0%	0.0%	19.6%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	4.7%	0.0%	0.0%	7.1%

GREEN/SUSTAINABILITY

Rate the importance of Green/Sustainability to your organization's success over the next five years:				
(N)	*528*	*6*	*6*	*232*
1=Not important	15.7%	16.7%	0.0%	12.9%
2	21.6%	33.3%	16.7%	23.3%
3	29.9%	16.7%	50.0%	28.9%
4	21.2%	16.7%	16.7%	22.8%
5=Highly important	11.6%	16.7%	16.7%	12.1%
Rate your organization's progress toward world-class Green/Sustainability:				
(N)	*526*	*6*	*6*	*231*
1=No progress	21.7%	33.3%	0.0%	19.1%
2	33.7%	33.3%	33.3%	35.1%
3	27.6%	16.7%	66.7%	25.1%
4	14.8%	16.7%	0.0%	18.6%
5=World-class	2.3%	0.0%	0.0%	2.2%
Input Measures				
What percentage of your workforce is dedicated to reducing energy, material, or emissions in your operations?				
(N)	*522*	*6*	*6*	*229*
<1%	49.4%	100.0%	16.7%	44.1%
1-5%	35.3%	0.0%	50.0%	38.9%
6-10%	7.5%	0.0%	16.7%	8.7%
>10%	7.9%	0.0%	16.7%	8.3%
What percentage of the workforce is dedicated to Green products (product and packaging impact, green products and markets)?				
(N)	*521*	*6*	*6*	*229*
<1%	58.9%	83.3%	66.7%	56.3%
1-5%	28.4%	16.7%	0.0%	30.1%
6-10%	6.0%	0.0%	16.7%	5.7%
>10%	6.7%	0.0%	16.7%	7.9%

	All Firms	Industry *(NAICS)* (3353) Electrical Equipment	(3359) Other Electrical Equipment and Components	Other Industries
What best describes your measurement system for reviewing return from Green/Sustainability efforts?				
(N)	*525*	*6*	*6*	*231*
No measurement system per se or reviews	61.3%	83.3%	50.0%	59.3%
Ad hoc monitoring of basic measures and ad hoc reviews	20.0%	16.7%	50.0%	19.5%
Company-specific metrics monitored regularly by operations staff	7.8%	0.0%	0.0%	8.7%
Regular monitoring and review of company-specific metrics by CEO and senior staff	8.8%	0.0%	0.0%	9.1%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.1%	0.0%	0.0%	3.5%
Output Measures				
What is your annual reduction in energy per unit of product output?				
(N)	*515*	*5*	*6*	*227*
<10%	84.7%	60.0%	100.0%	82.4%
10-25%	13.8%	40.0%	0.0%	15.9%
26-50%	1.4%	0.0%	0.0%	1.8%
>50%	0.2%	0.0%	0.0%	0.0%
What is your annual reduction in usage of non-recycled material per unit of product output?				
(N)	*514*	*5*	*6*	*226*
<10%	80.0%	100.0%	100.0%	79.2%
10-25%	16.0%	0.0%	0.0%	15.0%
26-50%	3.1%	0.0%	0.0%	4.0%
>50%	1.0%	0.0%	0.0%	1.8%
What percentage of your products (by sales volume) are completely recyclable/reusable?				
(N)	*512*	*5*	*6*	*228*
<50%	55.7%	60.0%	66.7%	57.0%
51-75%	10.7%	0.0%	33.3%	11.0%
76-89%	8.2%	40.0%	0.0%	7.5%
90-99%	16.6%	0.0%	0.0%	15.4%
100%	8.8%	0.0%	0.0%	9.2%
GLOBAL ENGAGEMENT				
Rate the importance of global engagement to your organization's success over the next five years:				
(N)	*526*	*6*	*6*	*231*
1=Not important	19.6%	16.7%	16.7%	21.7%
2	20.9%	33.3%	16.7%	18.2%
3	20.2%	16.7%	16.7%	18.6%
4	18.3%	33.3%	16.7%	20.8%
5=Highly important	21.1%	0.0%	33.3%	20.8%
Rate your organization's progress toward becoming a world-class global player:				
(N)	*524*	*6*	*6*	*230*
1=No progress	29.0%	33.3%	16.7%	29.1%
2	31.3%	16.7%	16.7%	32.6%
3	18.5%	33.3%	16.7%	19.1%
4	16.8%	16.7%	50.0%	15.2%
5=World-class	4.4%	0.0%	0.0%	3.9%

	All Firms	Industry *(NAICS)* (3353) Electrical Equipment	(3359) Other Electrical Equipment and Components	Other Industries
Input Measures				
What percentage of your total direct workforce is located overseas and/or located domestically and responsible for global business activities?				
(N)	*528*	*6*	*6*	*231*
0%	58.3%	50.0%	33.3%	61.0%
1-25%	36.0%	50.0%	66.7%	33.8%
26-50%	3.6%	0.0%	0.0%	3.5%
>50%	2.1%	0.0%	0.0%	1.7%
What best describes your measurement system for reviewing return from global engagement?				
(N)	*520*	*6*	*6*	*231*
No measurement system per se or reviews	59.8%	83.3%	16.7%	56.7%
Ad hoc monitoring of basic measures and ad hoc reviews	16.5%	16.7%	33.3%	16.5%
Company-specific metrics monitored regularly by operations staff	7.9%	0.0%	33.3%	9.5%
Regular monitoring and review of company-specific metrics by CEO and senior staff	13.1%	0.0%	16.7%	14.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.7%	0.0%	0.0%	3.0%
Output Measures				
By what percentage has dollar volume of sales outside the United States changed over the past three years?				
(N)	*518*	*5*	*6*	*229*
<25%	77.0%	60.0%	83.3%	76.4%
26-50%	15.8%	40.0%	0.0%	14.9%
51-100%	4.1%	0.0%	0.0%	4.8%
>100%	3.1%	0.0%	16.7%	3.9%
In how many countries outside of the United States does your organization operate or partner in production facilities?				
(N)	*520*	*5*	*6*	*229*
0	67.3%	40.0%	50.0%	67.3%
1-5	23.9%	40.0%	33.3%	27.5%
6-10	3.7%	0.0%	0.0%	1.8%
>10	5.2%	20.0%	16.7%	3.5%
In how many countries outside of the United States does your organization have sales and/or distribution facilities?				
(N)	*520*	*5*	*6*	*230*
0	62.9%	40.0%	66.7%	63.0%
1-5	23.7%	60.0%	16.7%	23.5%
6-10	4.8%	0.0%	0.0%	3.9%
>10	8.7%	0.0%	16.7%	9.6%
GOING FORWARD				
To what extent does your geographic region in Wisconsin have the support services, peer groups, training opportunities and resources available to support the following?				
Customer-focused innovation				
(N)	*526*	*6*	*6*	*231*
1=No support	10.3%	0.0%	0.0%	10.0%
2	20.9%	16.7%	16.7%	21.2%
3	32.7%	16.7%	66.7%	30.7%
4	26.1%	50.0%	16.7%	27.7%
5=Full support	10.1%	16.7%	0.0%	10.4%

		Industry *(NAICS)*		
	All Firms	*(3353)* Electrical Equipment	*(3359)* Other Electrical Equipment and Components	Other Industries
Engaged people/Human-capital acquisition, development and retention				
(N)	*524*	*6*	*6*	*230*
1=No support	6.5%	0.0%	0.0%	7.0%
2	23.5%	16.7%	16.7%	25.7%
3	31.7%	16.7%	66.7%	26.5%
4	29.4%	66.7%	16.7%	30.4%
5=Full support	9.0%	0.0%	0.0%	10.4%
Superior processes/Improvement focus				
(N)	*522*	*6*	*6*	*229*
1=No support	6.7%	0.0%	0.0%	7.0%
2	17.2%	16.7%	16.7%	18.8%
3	28.9%	16.7%	66.7%	24.9%
4	33.3%	50.0%	16.7%	34.9%
5=Full support	13.8%	16.7%	0.0%	14.4%
Supply-chain management and collaboration				
(N)	*523*	*6*	*6*	*230*
1=No support	8.0%	0.0%	0.0%	7.8%
2	23.1%	33.3%	0.0%	23.9%
3	34.4%	33.3%	66.7%	34.4%
4	27.0%	33.3%	33.3%	25.2%
5=Full support	7.5%	0.0%	0.0%	8.7%
Green/Sustainability				
(N)	*522*	*6*	*6*	*230*
1=No support	16.5%	16.7%	33.3%	16.5%
2	29.1%	66.7%	0.0%	28.7%
3	33.0%	16.7%	66.7%	30.9%
4	14.8%	0.0%	0.0%	17.0%
5=Full support	6.7%	0.0%	0.0%	7.0%
Global engagement				
(N)	*517*	*6*	*6*	*229*
1=No support	20.7%	0.0%	16.7%	22.7%
2	31.9%	66.7%	16.7%	32.3%
3	30.4%	33.3%	66.7%	28.4%
4	11.6%	0.0%	0.0%	10.9%
5=Full support	5.4%	0.0%	0.0%	5.7%

	All Firms	Region: Central	East Central	North	South
PROFILE					
Which of the following describes your organization?					
(N)	*527*	*28*	*79*	*7*	*97*
Company	85.6%	82.1%	86.1%	100.0%	82.5%
Division/unit of a larger company	14.4%	17.9%	13.9%	0.0%	17.5%
Driver Industries					
(N)	*531*	*28*	*79*	*7*	*98*
3115 - Dairy Product Manufacturing	2.6%	3.6%	5.1%	0.0%	5.1%
321 - Wood Product Manufacturing (Complete)	4.3%	14.3%	5.1%	28.6%	5.1%
322 - Paper Manufacturing (Complete)	2.8%	7.1%	5.1%	0.0%	2.0%
3256 - Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.9%	0.0%	1.3%	0.0%	1.0%
3315 - Foundries	2.8%	0.0%	6.3%	0.0%	1.0%
332 - Fabricated Metal Products (Partial)	16.8%	7.1%	15.2%	0.0%	11.2%
333 - Machinery Manufacturer (Partial)	23.4%	17.9%	20.3%	42.9%	24.5%
3353 - Electrical Equipment Manufacturing	1.1%	3.6%	0.0%	0.0%	1.0%
3359 - Other Electrical Equipment and Component Manufacturing	1.1%	3.6%	0.0%	0.0%	2.0%
Other Industries	44.1%	42.9%	41.8%	28.6%	46.9%
Regions					
(N)	*531*	*28*	*79*	*7*	*98*
Central	5.3%	100.0%	0.0%	0.0%	0.0%
East Central	14.9%	0.0%	100.0%	0.0%	0.0%
North	1.3%	0.0%	0.0%	100.0%	0.0%
South	18.5%	0.0%	0.0%	0.0%	100.0%
Southeast	53.9%	0.0%	0.0%	0.0%	0.0%
West Central I	3.2%	0.0%	0.0%	0.0%	0.0%
West Central II	1.7%	0.0%	0.0%	0.0%	0.0%
No Region	1.3%	0.0%	0.0%	0.0%	0.0%
How many years has your organization been in operation?					
(N)	*531*	*28*	*79*	*7*	*98*
Median	37	34	30	45	30
Average	44	38	43	54	38
75th Percentile	62	50	70	104	50
25th Percentile	20	24	13	16	18
What are your approximate annual revenues?					
(N)	*500*	*24*	*73*	*7*	*92*
Median	$14,000,000	$14,500,000	$20,000,000	$10,000,000	$10,000,000
Average	$105,800,946	$27,360,417	$48,106,164	$24,385,714	$63,030,348
75th Percentile	$40,000,000	$37,250,000	$45,000,000	$55,000,000	$37,500,000
25th Percentile	$4,800,000	$3,075,000	$8,000,000	$3,000,000	$2,700,000
How many full-time employees (and equivalents)?					
(N)	*527*	*28*	*76*	*7*	*98*
Median	68	115	92	60	50
Average	415	196	182	132	325
75th Percentile	170	207	200	260	165
25th Percentile	29	28	44	15	18
What is the age of your organization's chief executive?					
(N)	*528*	*28*	*78*	*7*	*98*
< 30	0.2%	0.0%	0.0%	0.0%	0.0%
31-40	6.4%	7.1%	6.4%	14.3%	7.1%
41-50	34.7%	32.1%	44.9%	57.1%	36.7%
51-60	39.0%	53.6%	37.2%	0.0%	38.8%
>60	19.7%	7.1%	11.5%	28.6%	17.4%

	All Firms	Region: Central	East Central	North	South
Do you anticipate a planned succession of leadership in the next five years?					
(N)	*529*	*28*	*79*	*7*	*97*
Yes	22.5%	10.7%	24.1%	28.6%	14.4%
Maybe	30.8%	28.6%	32.9%	28.6%	29.9%
No	46.7%	60.7%	43.0%	42.9%	55.7%

CUSTOMER-FOCUSED INNOVATION

	All Firms	Central	East Central	North	South
Rate the importance of customer-focused innovation to your organization's success over the next five years:					
(N)	*527*	*28*	*79*	*7*	*98*
1=Not important	1.3%	0.0%	1.3%	0.0%	1.0%
2	2.7%	3.6%	3.8%	0.0%	4.1%
3	10.3%	3.6%	15.2%	14.3%	11.2%
4	31.3%	25.0%	22.8%	42.9%	26.5%
5=Highly important	54.5%	67.9%	57.0%	42.9%	57.1%
Rate your organization's progress toward world-class customer-focused innovation:					
(N)	*528*	*28*	*79*	*7*	*97*
1=No progress	3.4%	0.0%	2.5%	0.0%	7.2%
2	16.5%	14.3%	22.8%	14.3%	8.3%
3	36.9%	32.1%	30.4%	28.6%	38.1%
4	33.7%	39.3%	30.4%	42.9%	34.0%
5=World-class	9.5%	14.3%	13.9%	14.3%	12.4%
Input Measures					
What percentage of your workforce is dedicated to new-product development/R&D?					
(N)	*525*	*28*	*79*	*7*	*96*
<1%	22.1%	21.4%	21.5%	28.6%	20.8%
1-5%	48.4%	46.4%	53.2%	28.6%	53.1%
6-10%	16.4%	17.9%	17.7%	14.3%	11.5%
>10%	13.1%	14.3%	7.6%	28.6%	14.6%
What percentage of sales is invested into new-product development/R&D?					
(N)	*525*	*28*	*78*	*7*	*98*
<1%	25.5%	25.0%	21.8%	28.6%	31.6%
1-5%	47.8%	50.0%	56.4%	42.9%	38.8%
6-10%	15.1%	21.4%	12.8%	0.0%	18.4%
>10%	11.6%	3.6%	9.0%	28.6%	11.2%
What best describes your measurement system for reviewing return from custom-focused innovation?					
(N)	*527*	*28*	*78*	*7*	*98*
No measurement system per se or reviews	31.7%	46.4%	34.6%	42.9%	32.7%
Ad hoc monitoring of basic measures and ad hoc reviews	30.7%	25.0%	24.4%	28.6%	28.6%
Company-specific metrics monitored regularly by operations staff	9.9%	7.1%	10.3%	0.0%	13.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.0%	10.7%	21.8%	0.0%	21.4%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.7%	10.7%	9.0%	28.6%	4.1%

	All Firms	Region: Central	East Central	North	South
Output Measures					
How many new products as a percentage of total SKUs are launched annually (count only new SKUs, not a product iteration or line extension)?					
(N)	*520*	*27*	*77*	*7*	*97*
<5%	56.5%	51.9%	54.6%	57.1%	56.7%
5-10%	27.1%	25.9%	27.3%	28.6%	22.7%
11-20%	11.4%	11.1%	14.3%	0.0%	15.5%
>20%	5.0%	11.1%	3.9%	14.3%	5.2%
Approximately what percentage of annual sales are derived from products introduced in the past three years?					
(N)	*524*	*28*	*77*	*7*	*98*
<5%	26.3%	28.6%	26.0%	14.3%	18.4%
5-25%	47.0%	32.1%	41.6%	57.1%	56.1%
26-50%	19.3%	32.1%	20.8%	28.6%	16.3%
>50%	7.4%	7.1%	11.7%	0.0%	9.2%
ENGAGED PEOPLE/HUMAN-CAPITAL ACQUISITION, DEVELOPMENT AND RETENTION					
Rate the importance of human-capital acquisition, development and retention to your organization's success over the next five years:					
(N)	*530*	*28*	*79*	*7*	*98*
1=Not important	1.3%	0.0%	0.0%	0.0%	2.0%
2	3.2%	7.1%	2.5%	0.0%	6.1%
3	14.0%	10.7%	8.9%	28.6%	12.2%
4	32.1%	28.6%	26.6%	28.6%	37.8%
5=Highly important	49.4%	53.6%	62.0%	42.9%	41.8%
Rate your organization's progress toward world-class human-capital acquisition, development and retention:					
(N)	*526*	*28*	*79*	*7*	*98*
1=No progress	7.8%	7.1%	2.5%	0.0%	12.2%
2	23.2%	25.0%	24.1%	42.9%	20.4%
3	40.1%	46.4%	34.2%	42.9%	37.8%
4	23.8%	14.3%	32.9%	14.3%	23.5%
5=World-class	5.1%	7.1%	6.3%	0.0%	6.1%
Input Measures					
What percentage of employees regularly participate in empowered work teams (i.e., make decisions without supervisor approval?					
(N)	*529*	*28*	*79*	*7*	*98*
<25%	39.9%	46.4%	34.2%	14.3%	37.8%
25-50%	30.3%	35.7%	31.7%	57.1%	30.6%
51-75%	14.9%	0.0%	17.7%	0.0%	18.4%
76-90%	9.6%	10.7%	11.4%	14.3%	11.2%
>90%	5.3%	7.1%	5.1%	14.3%	2.0%
How many formal training hours are devoted annually to each employee?					
(N)	*528*	*28*	*79*	*7*	*97*
8 or fewer	29.0%	32.1%	22.8%	14.3%	35.1%
9-20	43.0%	46.4%	41.8%	42.9%	35.1%
21-40	18.4%	17.9%	20.3%	14.3%	18.6%
>40	9.7%	3.6%	15.2%	28.6%	11.3%

	All Firms	Region: Central	East Central	North	South
What percentage of employees are dedicated to assessing and upgrading your organization's talent pool?					
(N)	*528*	*28*	*79*	*7*	*98*
<1%	27.8%	32.1%	27.9%	42.9%	25.5%
1-5%	49.4%	60.7%	46.8%	28.6%	50.0%
6-10%	14.4%	3.6%	20.3%	14.3%	13.3%
>10%	8.3%	3.6%	5.1%	14.3%	11.2%
What best describes your measurement system for reviewing return from human-capital acquisition, development and retention?					
(N)	*527*	*28*	*76*	*7*	*98*
No measurement system per se or reviews	28.3%	46.4%	25.0%	28.6%	28.6%
Ad hoc monitoring of basic measures and ad hoc reviews	35.7%	25.0%	32.9%	42.9%	36.7%
Company-specific metrics monitored regularly by operations staff	13.5%	17.9%	10.5%	0.0%	15.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.2%	7.1%	25.0%	0.0%	15.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	4.4%	3.6%	6.6%	28.6%	4.1%
Output Measures					
What is your value-added per employee ([sales – cost of materials] ÷ number of employees)?					
(N)	*508*	*26*	*75*	*6*	*94*
< $75,000	32.3%	50.0%	34.7%	16.7%	35.1%
$75,000-$125,000	39.4%	30.8%	36.0%	50.0%	39.4%
$125,001-$175,000	18.1%	7.7%	20.0%	16.7%	13.8%
> $175,000	10.2%	11.5%	9.3%	16.7%	11.7%
What is your organization's annual labor turnover rate (number of voluntary and involuntary separations ÷ typical staffing level)?					
(N)	*520*	*28*	*76*	*6*	*96*
0%	5.2%	3.6%	0.0%	0.0%	10.4%
0.1-1%	17.9%	14.3%	10.5%	50.0%	16.7%
1.1-5%	32.9%	28.6%	38.2%	16.7%	33.3%
5.1-10%	28.1%	35.7%	34.2%	33.3%	25.0%
>10%	16.0%	17.9%	17.1%	0.0%	14.6%

SUPERIOR PROCESSES/IMPROVEMENT FOCUS

	All Firms	Central	East Central	North	South
Rate the importance of process improvement to your organization's success over the next five years:					
(N)	*530*	*28*	*79*	*7*	*98*
1=Not important	0.8%	0.0%	0.0%	0.0%	2.0%
2	1.9%	7.1%	1.3%	0.0%	4.1%
3	9.8%	3.6%	5.1%	0.0%	9.2%
4	26.4%	25.0%	38.0%	28.6%	28.6%
5=Highly important	61.1%	64.3%	55.7%	71.4%	56.1%
Rate your organization's progress toward world-class processes and process improvement:					
(N)	*528*	*28*	*79*	*7*	*98*
1=No progress	3.6%	3.6%	0.0%	0.0%	7.1%
2	16.9%	17.9%	21.5%	0.0%	11.2%
3	37.7%	32.1%	39.2%	42.9%	43.9%
4	34.5%	39.3%	32.9%	57.1%	30.6%
5=World-class	7.4%	7.1%	6.3%	0.0%	7.1%

	All Firms	Region: Central	East Central	North	South
Input Measures					
What percentage of your workforce has been fully engaged in your organization's specific improvement method/approach?					
(N)	*527*	*28*	*78*	*7*	*97*
<26%	32.6%	46.4%	23.1%	42.9%	34.0%
26-50%	22.8%	14.3%	32.1%	14.3%	24.7%
51-75%	18.0%	14.3%	24.4%	14.3%	17.5%
76-99%	17.7%	17.9%	12.8%	14.3%	18.6%
100%	8.9%	7.1%	7.7%	14.3%	5.2%
What is your organization's investment in capital equipment as a percentage of sales (three-year average)?					
(N)	*526*	*28*	*78*	*7*	*98*
<1%	7.6%	7.1%	2.6%	0.0%	9.2%
1-5%	51.5%	42.9%	52.6%	57.1%	46.9%
6-10%	25.7%	28.6%	28.2%	28.6%	28.6%
>10%	15.2%	21.4%	16.7%	14.3%	15.3%
What best describes your measurement system for reviewing return from process improvements?					
(N)	*524*	*27*	*77*	*7*	*98*
No measurement system per se or reviews	15.3%	29.6%	5.2%	0.0%	16.3%
Ad hoc monitoring of basic measures and ad hoc reviews	28.2%	25.9%	31.2%	57.1%	28.6%
Company-specific metrics monitored regularly by operations staff	21.4%	18.5%	28.6%	14.3%	23.5%
Regular monitoring and review of company-specific metrics by CEO and senior staff	22.7%	18.5%	22.1%	14.3%	22.5%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	12.4%	7.4%	13.0%	14.3%	9.2%
Output Measures					
What percentage of deliveries reach customers in perfect order (on time, high quality, to all customer specifications)?					
(N)	*525*	*26*	*78*	*7*	*98*
<80%	8.6%	3.9%	10.3%	0.0%	8.2%
80-90%	16.0%	23.1%	23.1%	28.6%	10.2%
91-95%	23.6%	30.8%	24.4%	14.3%	21.4%
96-98%	26.5%	23.1%	24.4%	42.9%	27.6%
>98%	25.3%	19.2%	18.0%	14.3%	32.7%
Describe your customers' satisfaction with your overall performance?					
(N)	*524*	*28*	*79*	*7*	*97*
Threatens to pull business because we don't match the competition	1.7%	0.0%	2.5%	0.0%	2.1%
Indifferent to buying our product or competitors	5.2%	3.6%	1.3%	0.0%	6.2%
Preference for our products by virtue of price, quality, and delivery performance	47.1%	42.9%	50.6%	57.1%	40.2%
Strong loyalty to our products due to ongoing trust in our organization's people and capabilities	46.0%	53.6%	45.6%	42.9%	51.6%
By what percentage has productivity (i.e., value add) improved over the past three years?					
(N)	*518*	*28*	*75*	*7*	*97*
<25%	48.1%	53.6%	48.0%	57.1%	41.2%
26-50	33.0%	32.1%	36.0%	0.0%	39.2%
51-75%	12.9%	3.6%	12.0%	42.9%	15.5%
76-99%	5.0%	7.1%	2.7%	0.0%	4.1%
>100%	1.0%	3.6%	1.3%	0.0%	0.0%

	All Firms	Region: Central	East Central	North	South
SUPPLY-CHAIN MANAGEMENT & COLLABORATION					
Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:					
(N)	*527*	*27*	*77*	*7*	*98*
1=Not important	4.7%	3.7%	0.0%	0.0%	7.1%
2	8.5%	0.0%	10.4%	0.0%	5.1%
3	19.9%	14.8%	24.7%	57.1%	22.5%
4	31.3%	29.6%	29.9%	14.3%	27.6%
5=Highly important	35.5%	51.9%	35.1%	28.6%	37.8%
Rate your organization's progress toward world-class supply-chain management and collaboration:					
(N)	*524*	*27*	*77*	*7*	*98*
1=No progress	9.4%	7.4%	3.9%	14.3%	14.3%
2	25.6%	22.2%	27.3%	28.6%	16.3%
3	40.3%	37.0%	42.9%	42.9%	43.9%
4	21.8%	29.6%	24.7%	14.3%	20.4%
5=World-class	3.1%	3.7%	1.3%	0.0%	5.1%
Input Measures					
What percentage of your workforce is dedicated to supply-chain and partner development, management, and collaboration?					
(N)	*523*	*27*	*76*	*7*	*98*
<1%	26.2%	29.6%	23.7%	28.6%	25.5%
1-5%	51.8%	48.2%	54.0%	71.4%	42.9%
6-10%	15.5%	11.1%	17.1%	0.0%	23.5%
>10%	6.5%	11.1%	5.3%	0.0%	8.2%
What is your organization's investment in information technologies (hardware and software) as a percentage of sales (three-year average)?					
(N)	*528*	*28*	*78*	*7*	*98*
<1%	30.7%	35.7%	25.6%	28.6%	32.7%
1-5%	49.4%	32.1%	48.7%	57.1%	49.0%
6-10%	13.1%	21.4%	18.0%	14.3%	16.3%
>10%	6.8%	10.7%	7.7%	0.0%	2.0%
What best describes your measurement system for reviewing return from supply-chain management and collaboration?					
(N)	*525*	*28*	*78*	*7*	*97*
No measurement system per se or reviews	28.6%	42.9%	18.0%	42.9%	29.9%
Ad hoc monitoring of basic measures and ad hoc reviews	32.8%	21.4%	37.2%	42.9%	30.9%
Company-specific metrics monitored regularly by operations staff	18.3%	17.9%	19.2%	0.0%	18.6%
Regular monitoring and review of company-specific metrics by CEO and senior staff	14.7%	14.3%	15.4%	0.0%	17.5%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	5.7%	3.6%	10.3%	14.3%	3.1%
Output Measures					
By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?					
(N)	*517*	*26*	*75*	*7*	*98*
<10%	58.6%	50.0%	52.0%	71.4%	56.1%
10-25%	30.0%	42.3%	41.3%	28.6%	27.6%
26-50%	9.5%	3.9%	5.3%	0.0%	15.3%
>50%	1.9%	3.9%	1.3%	0.0%	1.0%

	All Firms	Region: Central	East Central	North	South
How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?					
(N)	*508*	*25*	*76*	*7*	*95*
Suppliers regularly measured on cost, quality, and delivery performance	35.8%	32.0%	29.0%	57.1%	34.7%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%	4.0%	9.2%	14.3%	13.7%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and "soft" qualities (e.g., trust, flexibility)	31.5%	36.0%	35.5%	0.0%	35.8%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	17.5%	24.0%	21.1%	28.6%	12.6%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	4.7%	4.0%	5.3%	0.0%	3.2%

GREEN/SUSTAINABILITY

Rate the importance of Green/Sustainability to your organization's success over the next five years:					
(N)	*528*	*28*	*78*	*7*	*98*
1=Not important	15.7%	10.7%	9.0%	0.0%	14.3%
2	21.6%	32.1%	19.2%	0.0%	16.3%
3	29.9%	21.4%	38.5%	57.1%	32.7%
4	21.2%	25.0%	21.8%	28.6%	21.4%
5=Highly important	11.6%	10.7%	11.5%	14.3%	15.3%
Rate your organization's progress toward world-class Green/Sustainability:					
(N)	*526*	*28*	*78*	*7*	*97*
1=No progress	21.7%	21.4%	14.1%	14.3%	18.6%
2	33.7%	28.6%	34.6%	0.0%	30.9%
3	27.6%	32.1%	32.1%	57.1%	32.0%
4	14.8%	14.3%	16.7%	28.6%	15.5%
5=World-class	2.3%	3.6%	2.6%	0.0%	3.1%
Input Measures					
What percentage of your workforce is dedicated to reducing energy, material, or emissions in your operations?					
(N)	*522*	*28*	*78*	*7*	*98*
<1%	49.4%	50.0%	47.4%	57.1%	41.8%
1-5%	35.3%	28.6%	38.5%	28.6%	38.8%
6-10%	7.5%	7.1%	9.0%	14.3%	6.1%
>10%	7.9%	14.3%	5.1%	0.0%	13.3%
What percentage of the workforce is dedicated to Green products (product and packaging impact, green products and markets)?					
(N)	*521*	*28*	*76*	*7*	*98*
<1%	58.9%	53.6%	61.8%	57.1%	48.0%
1-5%	28.4%	28.6%	29.0%	42.9%	32.7%
6-10%	6.0%	10.7%	1.3%	0.0%	8.2%
>10%	6.7%	7.1%	7.9%	0.0%	11.2%

	All Firms	Region: Central	East Central	North	South
What best describes your measurement system for reviewing return from Green/Sustainability efforts?					
(N)	*525*	*28*	*77*	*7*	*98*
No measurement system per se or reviews	61.3%	64.3%	55.8%	71.4%	60.2%
Ad hoc monitoring of basic measures and ad hoc reviews	20.0%	21.4%	22.1%	28.6%	14.3%
Company-specific metrics monitored regularly by operations staff	7.8%	10.7%	7.8%	0.0%	10.2%
Regular monitoring and review of company-specific metrics by CEO and senior staff	8.8%	0.0%	11.7%	0.0%	12.2%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.1%	3.6%	2.6%	0.0%	3.1%
Output Measures					
What is your annual reduction in energy per unit of product output?					
(N)	*515*	*25*	*75*	*7*	*97*
<10%	84.7%	92.0%	93.3%	100.0%	80.4%
10-25%	13.8%	4.0%	6.7%	0.0%	18.6%
26-50%	1.4%	4.0%	0.0%	0.0%	0.0%
>50%	0.2%	0.0%	0.0%	0.0%	1.0%
What is your annual reduction in usage of non-recycled material per unit of product output?					
(N)	*514*	*26*	*74*	*7*	*97*
<10%	80.0%	84.6%	78.4%	71.4%	80.4%
10-25%	16.0%	3.9%	17.6%	28.6%	15.5%
26-50%	3.1%	11.5%	4.1%	0.0%	4.1%
>50%	1.0%	0.0%	0.0%	0.0%	0.0%
What percentage of your products (by sales volume) are completely recyclable/reusable?					
(N)	*512*	*26*	*74*	*7*	*96*
<50%	55.7%	61.5%	52.7%	57.1%	46.9%
51-75%	10.7%	11.5%	8.1%	0.0%	15.6%
76-89%	8.2%	7.7%	8.1%	28.6%	9.4%
90-99%	16.6%	11.5%	16.2%	14.3%	24.0%
100%	8.8%	7.7%	14.9%	0.0%	4.2%
GLOBAL ENGAGEMENT					
Rate the importance of global engagement to your organization's success over the next five years:					
(N)	*526*	*28*	*79*	*7*	*97*
1=Not important	19.6%	25.0%	19.0%	28.6%	28.9%
2	20.9%	32.1%	16.5%	14.3%	17.5%
3	20.2%	17.9%	24.1%	0.0%	18.6%
4	18.3%	10.7%	20.3%	28.6%	17.5%
5=Highly important	21.1%	14.3%	20.3%	28.6%	17.5%
Rate your organization's progress toward becoming a world-class global player:					
(N)	*524*	*28*	*79*	*7*	*95*
1=No progress	29.0%	42.9%	29.1%	28.6%	35.8%
2	31.3%	25.0%	32.9%	28.6%	29.5%
3	18.5%	14.3%	19.0%	14.3%	15.8%
4	16.8%	14.3%	17.7%	28.6%	14.7%
5=World-class	4.4%	3.6%	1.3%	0.0%	4.2%

	All Firms	Region: Central	East Central	North	South
Input Measures					
What percentage of your total direct workforce is located overseas and/or located domestically and responsible for global business activities?					
(N)	*528*	*28*	*79*	*7*	*97*
0%	58.3%	71.4%	51.9%	28.6%	66.0%
1-25%	36.0%	28.6%	41.8%	57.1%	28.9%
26-50%	3.6%	0.0%	3.8%	14.3%	3.1%
>50%	2.1%	0.0%	2.5%	0.0%	2.1%
What best describes your measurement system for reviewing return from global engagement?					
(N)	*520*	*28*	*77*	*7*	*96*
No measurement system per se or reviews	59.8%	71.4%	53.3%	57.1%	60.4%
Ad hoc monitoring of basic measures and ad hoc reviews	16.5%	14.3%	19.5%	28.6%	12.5%
Company-specific metrics monitored regularly by operations staff	7.9%	14.3%	9.1%	0.0%	9.4%
Regular monitoring and review of company-specific metrics by CEO and senior staff	13.1%	0.0%	16.9%	0.0%	16.7%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.7%	0.0%	1.3%	14.3%	1.0%
Output Measures					
By what percentage has dollar volume of sales outside the United States changed over the past three years?					
(N)	*518*	*26*	*74*	*7*	*95*
<25%	77.0%	84.6%	85.1%	71.4%	73.7%
26-50%	15.8%	7.7%	12.2%	28.6%	15.8%
51-100%	4.1%	3.9%	0.0%	0.0%	5.3%
>100%	3.1%	3.9%	2.7%	0.0%	5.3%
In how many countries outside of the United States does your organization operate or partner in production facilities?					
(N)	*520*	*26*	*77*	*7*	*97*
0	67.3%	73.1%	72.7%	85.7%	68.0%
1-5	23.9%	23.1%	20.8%	14.3%	21.7%
6-10	3.7%	0.0%	2.6%	0.0%	4.1%
>10	5.2%	3.9%	3.9%	0.0%	6.2%
In how many countries outside of the United States does your organization have sales and/or distribution facilities?					
(N)	*520*	*25*	*78*	*7*	*97*
0	62.9%	80.0%	69.2%	28.6%	65.0%
1-5	23.7%	16.0%	21.8%	57.1%	21.7%
6-10	4.8%	0.0%	3.9%	0.0%	6.2%
>10	8.7%	4.0%	5.1%	14.3%	7.2%
GOING FORWARD					
To what extent does your geographic region in Wisconsin have the support services, peer groups, training opportunities and resources available to support the following?					
Customer-focused innovation					
(N)	*526*	*27*	*78*	*7*	*97*
1=No support	10.3%	7.4%	7.7%	57.1%	7.2%
2	20.9%	22.2%	19.2%	28.6%	19.6%
3	32.7%	40.7%	39.7%	14.3%	34.0%
4	26.1%	22.2%	29.5%	0.0%	27.8%
5=Full support	10.1%	7.4%	3.9%	0.0%	11.3%

		Region			
	All Firms	Central	East Central	North	South
Engaged people/Human-capital acquisition, development and retention					
(N)	*524*	*27*	*77*	*7*	*97*
1=No support	6.5%	7.4%	5.2%	42.9%	7.2%
2	23.5%	29.6%	23.4%	28.6%	20.6%
3	31.7%	25.9%	35.1%	14.3%	29.9%
4	29.4%	25.9%	31.2%	14.3%	35.1%
5=Full support	9.0%	11.1%	5.2%	0.0%	7.2%
Superior processes/Improvement focus					
(N)	*522*	*27*	*76*	*7*	*97*
1=No support	6.7%	7.4%	2.6%	28.6%	7.2%
2	17.2%	25.9%	26.3%	42.9%	18.6%
3	28.9%	33.3%	21.1%	28.6%	30.9%
4	33.3%	25.9%	36.8%	0.0%	30.9%
5=Full support	13.8%	7.4%	13.2%	0.0%	12.4%
Supply-chain management and collaboration					
(N)	*523*	*27*	*76*	*7*	*97*
1=No support	8.0%	7.4%	6.6%	28.6%	8.3%
2	23.1%	29.6%	23.7%	57.1%	21.7%
3	34.4%	40.7%	36.8%	14.3%	34.0%
4	27.0%	14.8%	29.0%	0.0%	26.8%
5=Full support	7.5%	7.4%	4.0%	0.0%	9.3%
Green/Sustainability					
(N)	*522*	*27*	*77*	*7*	*97*
1=No support	16.5%	18.5%	18.2%	14.3%	13.4%
2	29.1%	48.2%	32.5%	57.1%	24.7%
3	33.0%	18.5%	29.9%	14.3%	28.9%
4	14.8%	11.1%	13.0%	14.3%	23.7%
5=Full support	6.7%	3.7%	6.5%	0.0%	9.3%
Global engagement					
(N)	*517*	*27*	*75*	*7*	*97*
1=No support	20.7%	25.9%	13.3%	71.4%	22.7%
2	31.9%	55.6%	36.0%	14.3%	33.0%
3	30.4%	11.1%	29.3%	14.3%	28.9%
4	11.6%	7.4%	16.0%	0.0%	9.3%
5=Full support	5.4%	0.0%	5.3%	0.0%	6.2%

2008 WISCONSIN NEXT GENERATION MANUFACTURING STUDY

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
PROFILE					
Which of the following describes your organization?					
(N)	*527*	*284*	*16*	*9*	*7*
Company	85.6%	87.0%	75.0%	88.9%	85.7%
Division/unit of a larger company	14.4%	13.0%	25.0%	11.1%	14.3%
Driver Industries					
(N)	*531*	*286*	*17*	*9*	*7*
3115 - Dairy Product Manufacturing	2.6%	0.7%	11.8%	0.0%	0.0%
321 - Wood Product Manufacturing (Complete)	4.3%	2.8%	0.0%	0.0%	0.0%
322 - Paper Manufacturing (Complete)	2.8%	2.5%	0.0%	0.0%	0.0%
3256 - Soap, Cleaning Compound, and Toilet Preparation Manufacturing	0.9%	1.1%	0.0%	0.0%	0.0%
3315 - Foundries	2.8%	3.2%	0.0%	0.0%	0.0%
332 - Fabricated Metal Products (Partial)	16.8%	20.6%	5.9%	22.2%	28.6%
333 - Machinery Manufacturer (Partial)	23.4%	23.8%	17.7%	33.3%	28.6%
3353 - Electrical Equipment Manufacturing	1.1%	1.4%	0.0%	0.0%	0.0%
3359 - Other Electrical Equipment and Component Manufacturing	1.1%	1.1%	0.0%	0.0%	0.0%
Other Industries	44.1%	43.0%	64.7%	44.4%	42.9%
Regions					
(N)	*531*	*286*	*17*	*9*	*7*
Central	5.3%	0.0%	0.0%	0.0%	0.0%
East Central	14.9%	0.0%	0.0%	0.0%	0.0%
North	1.3%	0.0%	0.0%	0.0%	0.0%
South	18.5%	0.0%	0.0%	0.0%	0.0%
Southeast	53.9%	100.0%	0.0%	0.0%	0.0%
West Central I	3.2%	0.0%	100.0%	0.0%	0.0%
West Central II	1.7%	0.0%	0.0%	100.0%	0.0%
No Region	1.3%	0.0%	0.0%	0.0%	100.0%
How many years has your organization been in operation?					
(N)	*531*	*286*	*17*	*9*	*7*
Median	37	40	27	43	26
Average	44	48	36	52	28
75th Percentile	62	66	43	87	50
25th Percentile	20	23	16	22	13
What are your approximate annual revenues?					
(N)	*500*	*274*	*17*	*8*	*5*
Median	$14,000,000	$12,000,000	$10,000,000	$34,000,000	$30,000,000
Average	$105,800,946	$119,805,040	$549,588,235	$48,125,000	$41,600,000
75th Percentile	$40,000,000	$40,000,000	$157,500,000	$70,500,000	*
25th Percentile	$4,800,000	$5,000,000	$4,500,000	$18,250,000	*
How many full-time employees (and equivalents)?					
(N)	*527*	*285*	*17*	*9*	*7*
Median	68	64	62	175	75
Average	415	476	1,579	336	144
75th Percentile	170	150	210	340	124
25th Percentile	29	30	16	128	9
What is the age of your organization's chief executive?					
(N)	*528*	*284*	*17*	*9*	*7*
< 30	0.2%	0.4%	0.0%	0.0%	0.0%
31-40	6.4%	6.0%	5.9%	11.1%	0.0%
41-50	34.7%	31.0%	29.4%	33.3%	42.9%
51-60	39.0%	37.7%	58.8%	44.4%	42.9%
>60	19.7%	25.0%	5.9%	11.1%	14.3%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
Do you anticipate a planned succession of leadership in the next five years?					
(N)	*529*	*286*	*17*	*9*	*6*
Yes	22.5%	25.5%	35.3%	0.0%	33.3%
Maybe	30.8%	30.8%	17.7%	66.7%	16.7%
No	46.7%	43.7%	47.1%	33.3%	50.0%

CUSTOMER-FOCUSED INNOVATION

Rate the importance of customer-focused innovation to your organization's success over the next five years:					
(N)	*527*	*283*	*17*	*9*	*6*
1=Not important	1.3%	1.1%	0.0%	11.1%	16.7%
2	2.7%	1.8%	5.9%	0.0%	0.0%
3	10.3%	9.5%	5.9%	11.1%	0.0%
4	31.3%	35.0%	47.1%	11.1%	50.0%
5=Highly important	54.5%	52.7%	41.2%	66.7%	33.3%
Rate your organization's progress toward world-class customer-focused innovation:					
(N)	*528*	*285*	*17*	*9*	*6*
1=No progress	3.4%	2.5%	0.0%	11.1%	16.7%
2	16.5%	17.5%	11.8%	44.4%	0.0%
3	36.9%	39.0%	47.1%	22.2%	33.3%
4	33.7%	34.0%	35.3%	11.1%	50.0%
5=World-class	9.5%	7.0%	5.9%	11.1%	0.0%
Input Measures					
What percentage of your workforce is dedicated to new-product development/R&D?					
(N)	*525*	*283*	*17*	*9*	*6*
<1%	22.1%	22.3%	23.5%	33.3%	16.7%
1-5%	48.4%	45.6%	52.9%	55.6%	50.0%
6-10%	16.4%	17.7%	17.7%	11.1%	16.7%
>10%	13.1%	14.5%	5.9%	0.0%	16.7%
What percentage of sales is invested into new-product development/R&D?					
(N)	*525*	*282*	*17*	*9*	*6*
<1%	25.5%	23.4%	29.4%	55.6%	16.7%
1-5%	47.8%	48.2%	52.9%	33.3%	66.7%
6-10%	15.1%	14.5%	17.7%	11.1%	0.0%
>10%	11.6%	13.8%	0.0%	0.0%	16.7%
What best describes your measurement system for reviewing return from custom-focused innovation?					
(N)	*527*	*284*	*17*	*9*	*6*
No measurement system per se or reviews	31.7%	28.5%	41.2%	33.3%	16.7%
Ad hoc monitoring of basic measures and ad hoc reviews	30.7%	32.4%	29.4%	66.7%	50.0%
Company-specific metrics monitored regularly by operations staff	9.9%	8.8%	11.8%	0.0%	33.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.0%	18.7%	5.9%	0.0%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	9.7%	11.6%	11.8%	0.0%	0.0%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
Output Measures					
How many new products as a percentage of total SKUs are launched annually (count only new SKUs, not a product iteration or line extension)?					
(N)	*520*	*280*	*17*	*9*	*6*
<5%	56.5%	57.5%	58.8%	44.4%	66.7%
5-10%	27.1%	28.2%	35.3%	33.3%	16.7%
11-20%	11.4%	10.7%	0.0%	0.0%	0.0%
>20%	5.0%	3.6%	5.9%	22.2%	16.7%
Approximately what percentage of annual sales are derived from products introduced in the past three years?					
(N)	*524*	*282*	*17*	*9*	*6*
<5%	26.3%	29.8%	23.5%	22.2%	16.7%
5-25%	47.0%	46.8%	47.1%	44.4%	33.3%
26-50%	19.3%	18.4%	17.7%	11.1%	33.3%
>50%	7.4%	5.0%	11.8%	22.2%	16.7%
ENGAGED PEOPLE/HUMAN-CAPITAL ACQUISITION, DEVELOPMENT AND RETENTION					
Rate the importance of human-capital acquisition, development and retention to your organization's success over the next five years:					
(N)	*530*	*286*	*17*	*9*	*6*
1=Not important	1.3%	1.8%	0.0%	0.0%	0.0%
2	3.2%	1.8%	5.9%	0.0%	16.7%
3	14.0%	16.1%	17.7%	11.1%	0.0%
4	32.1%	31.1%	29.4%	33.3%	83.3%
5=Highly important	49.4%	49.3%	47.1%	55.6%	0.0%
Rate your organization's progress toward world-class human-capital acquisition, development and retention:					
(N)	*526*	*282*	*17*	*9*	*6*
1=No progress	7.8%	7.5%	0.0%	33.3%	16.7%
2	23.2%	24.1%	11.8%	22.2%	16.7%
3	40.1%	41.5%	52.9%	33.3%	33.3%
4	23.8%	22.3%	29.4%	11.1%	33.3%
5=World-class	5.1%	4.6%	5.9%	0.0%	0.0%
Input Measures					
What percentage of employees regularly participate in empowered work teams (i.e., make decisions without supervisor approval?					
(N)	*529*	*285*	*17*	*9*	*6*
<25%	39.9%	41.1%	35.3%	77.8%	50.0%
25-50%	30.3%	29.1%	29.4%	22.2%	16.7%
51-75%	14.9%	14.7%	23.5%	0.0%	16.7%
76-90%	9.6%	8.8%	5.9%	0.0%	16.7%
>90%	5.3%	6.3%	5.9%	0.0%	0.0%
How many formal training hours are devoted annually to each employee?					
(N)	*528*	*285*	*17*	*9*	*6*
8 or fewer	29.0%	28.1%	17.7%	55.6%	50.0%
9-20	43.0%	46.3%	52.9%	22.2%	16.7%
21-40	18.4%	17.5%	23.5%	22.2%	16.7%
>40	9.7%	8.1%	5.9%	0.0%	16.7%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
What percentage of employees are dedicated to assessing and upgrading your organization's talent pool?					
(N)	*528*	*284*	*17*	*9*	*6*
<1%	27.8%	26.4%	47.1%	55.6%	0.0%
1-5%	49.4%	49.7%	41.2%	44.4%	66.7%
6-10%	14.4%	15.1%	5.9%	0.0%	16.7%
>10%	8.3%	8.8%	5.9%	0.0%	16.7%
What best describes your measurement system for reviewing return from human-capital acquisition, development and retention?					
(N)	*527*	*286*	*17*	*9*	*6*
No measurement system per se or reviews	28.3%	26.9%	35.3%	44.4%	0.0%
Ad hoc monitoring of basic measures and ad hoc reviews	35.7%	37.8%	17.7%	44.4%	33.3%
Company-specific metrics monitored regularly by operations staff	13.5%	12.2%	35.3%	0.0%	33.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff	18.2%	19.6%	5.9%	11.1%	33.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	4.4%	3.5%	5.9%	0.0%	0.0%
Output Measures					
What is your value-added per employee ([sales – cost of materials] ÷ number of employees)?					
(N)	*508*	*276*	*17*	*8*	*6*
< $75,000	32.3%	29.0%	41.2%	37.5%	16.7%
$75,000-$125,000	39.4%	40.2%	29.4%	62.5%	66.7%
$125,001-$175,000	18.1%	20.7%	17.7%	0.0%	16.7%
> $175,000	10.2%	10.1%	11.8%	0.0%	0.0%
What is your organization's annual labor turnover rate (number of voluntary and involuntary separations ÷ typical staffing level)?					
(N)	*520*	*282*	*17*	*9*	*6*
0%	5.2%	5.3%	5.9%	0.0%	0.0%
0.1-1%	17.9%	19.2%	29.4%	11.1%	33.3%
1.1-5%	32.9%	33.0%	17.7%	33.3%	33.3%
5.1-10%	28.1%	27.0%	23.5%	22.2%	33.3%
>10%	16.0%	15.6%	23.5%	33.3%	0.0%
SUPERIOR PROCESSES/IMPROVEMENT FOCUS					
Rate the importance of process improvement to your organization's success over the next five years:					
(N)	*530*	*286*	*17*	*9*	*6*
1=Not important	0.8%	0.7%	0.0%	0.0%	0.0%
2	1.9%	0.7%	0.0%	0.0%	16.7%
3	9.8%	12.2%	17.7%	0.0%	0.0%
4	26.4%	23.1%	17.7%	11.1%	50.0%
5=Highly important	61.1%	63.3%	64.7%	88.9%	33.3%
Rate your organization's progress toward world-class processes and process improvement:					
(N)	*528*	*285*	*16*	*9*	*6*
1=No progress	3.6%	3.2%	0.0%	11.1%	16.7%
2	16.9%	17.2%	18.8%	33.3%	16.7%
3	37.7%	35.8%	43.8%	33.3%	16.7%
4	34.5%	36.5%	18.8%	11.1%	50.0%
5=World-class	7.4%	7.4%	18.8%	11.1%	0.0%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
Input Measures					
What percentage of your workforce has been fully engaged in your organization's specific improvement method/approach?					
(N)	*527*	*285*	*17*	*9*	*6*
<26%	32.6%	31.6%	41.2%	66.7%	33.3%
26-50%	22.8%	21.8%	23.5%	0.0%	0.0%
51-75%	18.0%	16.5%	23.5%	22.2%	16.7%
76-99%	17.7%	19.3%	0.0%	11.1%	50.0%
100%	8.9%	10.9%	11.8%	0.0%	0.0%
What is your organization's investment in capital equipment as a percentage of sales (three-year average)?					
(N)	*526*	*283*	*17*	*9*	*6*
<1%	7.6%	9.2%	0.0%	11.1%	0.0%
1-5%	51.5%	53.0%	52.9%	55.6%	66.7%
6-10%	25.7%	24.0%	29.4%	22.2%	0.0%
>10%	15.2%	13.8%	17.7%	11.1%	33.3%
What best describes your measurement system for reviewing return from process improvements?					
(N)	*524*	*283*	*17*	*9*	*6*
No measurement system per se or reviews	15.3%	16.3%	29.4%	0.0%	16.7%
Ad hoc monitoring of basic measures and ad hoc reviews	28.2%	25.1%	29.4%	77.8%	33.3%
Company-specific metrics monitored regularly by operations staff	21.4%	20.5%	17.7%	0.0%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	22.7%	23.7%	11.8%	22.2%	50.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	12.4%	14.5%	11.8%	0.0%	0.0%
Output Measures					
What percentage of deliveries reach customers in perfect order (on time, high quality, to all customer specifications)?					
(N)	*525*	*284*	*17*	*9*	*6*
<80%	8.6%	8.8%	5.9%	22.2%	0.0%
80-90%	16.0%	14.4%	17.7%	11.1%	50.0%
91-95%	23.6%	25.0%	11.8%	22.2%	0.0%
96-98%	26.5%	25.7%	23.5%	44.4%	50.0%
>98%	25.3%	26.1%	41.2%	0.0%	0.0%
Describe your customers' satisfaction with your overall performance?					
(N)	*524*	*281*	*17*	*9*	*6*
Threatens to pull business because we don't match the competition	1.7%	1.8%	0.0%	0.0%	0.0%
Indifferent to buying our product or competitors	5.2%	6.1%	0.0%	11.1%	16.7%
Preference for our products by virtue of price, quality, and delivery performance	47.1%	48.0%	52.9%	55.6%	50.0%
Strong loyalty to our products due to ongoing trust in our organization's people and capabilities	46.0%	44.1%	47.1%	33.3%	33.3%
By what percentage has productivity (i.e., value add) improved over the past three years?					
(N)	*518*	*279*	*17*	*9*	*6*
<25%	48.1%	48.0%	58.8%	66.7%	66.7%
26-50	33.0%	33.0%	23.5%	11.1%	0.0%
51-75%	12.9%	12.9%	11.8%	11.1%	0.0%
76-99%	5.0%	5.4%	0.0%	11.1%	33.3%
>100%	1.0%	0.7%	5.9%	0.0%	0.0%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
SUPPLY-CHAIN MANAGEMENT & COLLABORATION					
Rate the importance of supply-chain management and collaboration to your organization's success over the next five years:					
(N)	*527*	*286*	*17*	*9*	*6*
1=Not important	4.7%	5.2%	11.8%	0.0%	0.0%
2	8.5%	10.5%	11.8%	0.0%	0.0%
3	19.9%	17.5%	17.7%	22.2%	16.7%
4	31.3%	33.9%	5.9%	44.4%	66.7%
5=Highly important	35.5%	32.9%	52.9%	33.3%	16.7%
Rate your organization's progress toward world-class supply-chain management and collaboration:					
(N)	*524*	*283*	*17*	*9*	*6*
1=No progress	9.4%	9.2%	11.8%	11.1%	0.0%
2	25.6%	27.6%	29.4%	44.4%	33.3%
3	40.3%	39.6%	29.4%	22.2%	50.0%
4	21.8%	20.9%	23.5%	22.2%	16.7%
5=World-class	3.1%	2.8%	5.9%	0.0%	0.0%
Input Measures					
What percentage of your workforce is dedicated to supply-chain and partner development, management, and collaboration?					
(N)	*523*	*283*	*17*	*9*	*6*
<1%	26.2%	25.4%	23.5%	55.6%	50.0%
1-5%	51.8%	54.8%	64.7%	33.3%	16.7%
6-10%	15.5%	13.8%	5.9%	0.0%	33.3%
>10%	6.5%	6.0%	5.9%	11.1%	0.0%
What is your organization's investment in information technologies (hardware and software) as a percentage of sales (three-year average)?					
(N)	*528*	*285*	*17*	*9*	*6*
<1%	30.7%	30.5%	17.7%	66.7%	33.3%
1-5%	49.4%	51.6%	64.7%	22.2%	33.3%
6-10%	13.1%	10.2%	11.8%	11.1%	0.0%
>10%	6.8%	7.7%	5.9%	0.0%	33.3%
What best describes your measurement system for reviewing return from supply-chain management and collaboration?					
(N)	*525*	*283*	*17*	*9*	*6*
No measurement system per se or reviews	28.6%	29.0%	52.9%	0.0%	16.7%
Ad hoc monitoring of basic measures and ad hoc reviews	32.8%	32.9%	11.8%	77.8%	33.3%
Company-specific metrics monitored regularly by operations staff	18.3%	19.4%	5.9%	11.1%	16.7%
Regular monitoring and review of company-specific metrics by CEO and senior staff	14.7%	13.1%	23.5%	11.1%	33.3%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	5.7%	5.7%	5.9%	0.0%	0.0%
Output Measures					
By approximately what percentage has total value of inventory throughout the supply chain for your primary product (furthest supplier to end customer) been reduced over the last three years?					
(N)	*517*	*280*	*17*	*8*	*6*
<10%	58.6%	60.4%	70.6%	62.5%	83.3%
10-25%	30.0%	27.9%	23.5%	25.0%	0.0%
26-50%	9.5%	9.3%	5.9%	12.5%	16.7%
>50%	1.9%	2.5%	0.0%	0.0%	0.0%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
How is your supply chain a competitive advantage in terms of flexibility and speed to the marketplace?					
(N)	*508*	*273*	*17*	*9*	*6*
Suppliers regularly measured on cost, quality, and delivery performance	35.8%	37.0%	35.3%	55.6%	50.0%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost	10.4%	9.9%	17.7%	11.1%	0.0%
Suppliers regularly measured on cost, quality, and delivery performance as well as total acquisition cost and "soft" qualities (e.g., trust, flexibility)	31.5%	31.9%	5.9%	0.0%	33.3%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts	17.5%	16.9%	17.7%	33.3%	16.7%
Strategic suppliers and customers are active participants in our operations, continuous improvement, and product development efforts and participate fully in strategic planning and identifying and responding to new markets	4.7%	4.4%	23.5%	0.0%	0.0%

GREEN/SUSTAINABILITY

Rate the importance of Green/Sustainability to your organization's success over the next five years:					
(N)	*528*	*285*	*17*	*9*	*6*
1=Not important	15.7%	17.9%	17.7%	11.1%	66.7%
2	21.6%	24.2%	23.5%	11.1%	0.0%
3	29.9%	27.4%	17.7%	33.3%	33.3%
4	21.2%	20.0%	23.5%	44.4%	0.0%
5=Highly important	11.6%	10.5%	17.7%	0.0%	0.0%
Rate your organization's progress toward world-class Green/Sustainability:					
(N)	*526*	*284*	*17*	*9*	*6*
1=No progress	21.7%	24.3%	17.7%	22.2%	66.7%
2	33.7%	35.2%	35.3%	55.6%	16.7%
3	27.6%	24.3%	29.4%	11.1%	16.7%
4	14.8%	14.1%	17.7%	11.1%	0.0%
5=World-class	2.3%	2.1%	0.0%	0.0%	0.0%
Input Measures					
What percentage of your workforce is dedicated to reducing energy, material, or emissions in your operations?					
(N)	*522*	*279*	*17*	*9*	*6*
<1%	49.4%	50.9%	41.2%	88.9%	83.3%
1-5%	35.3%	36.2%	23.5%	11.1%	0.0%
6-10%	7.5%	6.8%	17.7%	0.0%	16.7%
>10%	7.9%	6.1%	17.7%	0.0%	0.0%
What percentage of the workforce is dedicated to Green products (product and packaging impact, green products and markets)?					
(N)	*521*	*280*	*17*	*9*	*6*
<1%	58.9%	61.1%	52.9%	88.9%	100.0%
1-5%	28.4%	27.9%	23.5%	11.1%	0.0%
6-10%	6.0%	6.1%	11.8%	0.0%	0.0%
>10%	6.7%	5.0%	11.8%	0.0%	0.0%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
What best describes your measurement system for reviewing return from Green/Sustainability efforts?					
(N)	*525*	*284*	*16*	*9*	*6*
No measurement system per se or reviews	61.3%	63.4%	43.8%	66.7%	66.7%
Ad hoc monitoring of basic measures and ad hoc reviews	20.0%	20.4%	25.0%	22.2%	33.3%
Company-specific metrics monitored regularly by operations staff	7.8%	7.0%	6.3%	11.1%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	8.8%	8.1%	12.5%	0.0%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.1%	1.1%	12.5%	0.0%	0.0%
Output Measures					
What is your annual reduction in energy per unit of product output?					
(N)	*515*	*279*	*17*	*9*	*6*
<10%	84.7%	82.1%	94.1%	88.9%	83.3%
10-25%	13.8%	15.8%	5.9%	11.1%	16.7%
26-50%	1.4%	2.2%	0.0%	0.0%	0.0%
>50%	0.2%	0.0%	0.0%	0.0%	0.0%
What is your annual reduction in usage of non-recycled material per unit of product output?					
(N)	*514*	*278*	*17*	*9*	*6*
<10%	80.0%	79.9%	82.4%	88.9%	66.7%
10-25%	16.0%	16.2%	17.7%	11.1%	33.3%
26-50%	3.1%	2.2%	0.0%	0.0%	0.0%
>50%	1.0%	1.8%	0.0%	0.0%	0.0%
What percentage of your products (by sales volume) are completely recyclable/reusable?					
(N)	*512*	*278*	*16*	*9*	*6*
<50%	55.7%	57.2%	68.8%	77.8%	66.7%
51-75%	10.7%	9.7%	18.8%	0.0%	16.7%
76-89%	8.2%	7.9%	0.0%	11.1%	0.0%
90-99%	16.6%	15.1%	12.5%	11.1%	16.7%
100%	8.8%	10.1%	0.0%	0.0%	0.0%

GLOBAL ENGAGEMENT

	All Firms	Southeast	West Central 1	West Central 2	No Region
Rate the importance of global engagement to your organization's success over the next five years:					
(N)	*526*	*283*	*17*	*9*	*6*
1=Not important	19.6%	17.0%	5.9%	11.1%	16.7%
2	20.9%	22.3%	23.5%	22.2%	16.7%
3	20.2%	20.1%	17.7%	22.2%	33.3%
4	18.3%	17.7%	29.4%	11.1%	33.3%
5=Highly important	21.1%	23.0%	23.5%	33.3%	0.0%
Rate your organization's progress toward becoming a world-class global player:					
(N)	*524*	*283*	*17*	*9*	*6*
1=No progress	29.0%	26.9%	5.9%	33.3%	16.7%
2	31.3%	31.5%	41.2%	22.2%	50.0%
3	18.5%	18.7%	29.4%	22.2%	33.3%
4	16.8%	18.0%	11.8%	11.1%	0.0%
5=World-class	4.4%	5.0%	11.8%	11.1%	0.0%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
Input Measures					
What percentage of your total direct workforce is located overseas and/or located domestically and responsible for global business activities?					
(N)	*528*	*285*	*17*	*9*	*6*
0%	58.3%	57.2%	41.2%	77.8%	66.7%
1-25%	36.0%	36.8%	47.1%	22.2%	33.3%
26-50%	3.6%	3.9%	5.9%	0.0%	0.0%
>50%	2.1%	2.1%	5.9%	0.0%	0.0%
What best describes your measurement system for reviewing return from global engagement?					
(N)	*520*	*280*	*17*	*9*	*6*
No measurement system per se or reviews	59.8%	61.1%	41.2%	66.7%	66.7%
Ad hoc monitoring of basic measures and ad hoc reviews	16.5%	16.8%	11.8%	22.2%	33.3%
Company-specific metrics monitored regularly by operations staff	7.9%	6.8%	11.8%	0.0%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff	13.1%	11.8%	29.4%	11.1%	0.0%
Regular monitoring and review of company-specific metrics by CEO and senior staff and transparency and clarity throughout the organization	2.7%	3.6%	5.9%	0.0%	0.0%
Output Measures					
By what percentage has dollar volume of sales outside the United States changed over the past three years?					
(N)	*518*	*284*	*17*	*9*	*6*
<25%	77.0%	75.4%	82.4%	55.6%	100.0%
26-50%	15.8%	17.3%	17.7%	22.2%	0.0%
51-100%	4.1%	4.9%	0.0%	11.1%	0.0%
>100%	3.1%	2.5%	0.0%	11.1%	0.0%
In how many countries outside of the United States does your organization operate or partner in production facilities?					
(N)	*520*	*282*	*16*	*9*	*6*
0	67.3%	65.6%	56.3%	66.7%	50.0%
1-5	23.9%	24.1%	43.8%	33.3%	33.3%
6-10	3.7%	4.3%	0.0%	0.0%	16.7%
>10	5.2%	6.0%	0.0%	0.0%	0.0%
In how many countries outside of the United States does your organization have sales and/or distribution facilities?					
(N)	*520*	*281*	*17*	*9*	*6*
0	62.9%	60.9%	52.9%	66.7%	33.3%
1-5	23.7%	24.2%	29.4%	11.1%	50.0%
6-10	4.8%	5.3%	5.9%	0.0%	0.0%
>10	8.7%	9.6%	11.8%	22.2%	16.7%
GOING FORWARD					
To what extent does your geographic region in Wisconsin have the support services, peer groups, training opportunities and resources available to support the following?					
Customer-focused innovation					
(N)	*526*	*285*	*17*	*9*	*6*
1=No support	10.3%	8.8%	29.4%	33.3%	33.3%
2	20.9%	21.1%	29.4%	22.2%	16.7%
3	32.7%	31.6%	17.7%	33.3%	0.0%
4	26.1%	26.0%	17.7%	11.1%	50.0%
5=Full support	10.1%	12.6%	5.9%	0.0%	0.0%

	All Firms	Region: Southeast	West Central 1	West Central 2	No Region
Engaged people/Human-capital acquisition, development and retention					
(N)	*524*	*284*	*17*	*9*	*6*
1=No support	6.5%	5.6%	0.0%	0.0%	33.3%
2	23.5%	22.2%	47.1%	44.4%	0.0%
3	31.7%	32.8%	29.4%	33.3%	16.7%
4	29.4%	28.5%	11.8%	22.2%	50.0%
5=Full support	9.0%	10.9%	11.8%	0.0%	0.0%
Superior processes/Improvement focus					
(N)	*522*	*283*	*17*	*9*	*6*
1=No support	6.7%	6.4%	11.8%	11.1%	16.7%
2	17.2%	12.4%	23.5%	33.3%	0.0%
3	28.9%	29.0%	29.4%	44.4%	50.0%
4	33.3%	35.7%	29.4%	11.1%	33.3%
5=Full support	13.8%	16.6%	5.9%	0.0%	0.0%
Supply-chain management and collaboration					
(N)	*523*	*284*	*17*	*9*	*6*
1=No support	8.0%	7.0%	17.7%	0.0%	33.3%
2	23.1%	20.4%	29.4%	77.8%	0.0%
3	34.4%	34.2%	35.3%	22.2%	33.3%
4	27.0%	29.6%	17.7%	0.0%	33.3%
5=Full support	7.5%	8.8%	0.0%	0.0%	0.0%
Green/Sustainability					
(N)	*522*	*282*	*17*	*9*	*6*
1=No support	16.5%	15.6%	23.5%	33.3%	33.3%
2	29.1%	26.6%	29.4%	44.4%	33.3%
3	33.0%	37.9%	23.5%	22.2%	33.3%
4	14.8%	13.1%	17.7%	0.0%	0.0%
5=Full support	6.7%	6.7%	5.9%	0.0%	0.0%
Global engagement					
(N)	*517*	*279*	*17*	*9*	*6*
1=No support	20.7%	19.7%	17.7%	33.3%	33.3%
2	31.9%	28.3%	47.1%	33.3%	0.0%
3	30.4%	33.3%	23.5%	22.2%	66.7%
4	11.6%	12.5%	5.9%	11.1%	0.0%
5=Full support	5.4%	6.1%	5.9%	0.0%	0.0%

Attachment C

Wisconsin Career Cluster and Pathway Framework Implementation Guide

Wisconsin Career Cluster and Pathway Framework Implementation Guide

WISCONSIN'S TECHNICAL COLLEGES

WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION

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Thursday, September 02, 2010

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Introduction

Competitive Wisconsin believes that for Wisconsin to be a leader in the knowledge economy, Wisconsin must act urgently and strategically to advance the educational attainment of all Wisconsin citizens.

Goals:

- To produce or attract an additional 170,000 individuals with BA degrees and 170,000 individuals graduate degrees by 2020.
- 100 % high school graduation rate. Current drop out rates-overall 1.9%, American Indians 4.4%, Latino/a 5.4 %, and African Americans 8.9%
- 100% of high school graduates will be proficient or above in reading and mathematics. Current rates 74% in reading and 72% in math overall.
- Increase the rate of AP pass rates by 100%-current rate is 14.5%
- World languages should be available in 100% of elementary schools in the state
- MPS is a special case and needs to increase achievement, reduce truancy, eliminate out of school suspensions and increase attendance rate to the statewide average.
- Public and private sectors should prioritize their investments in education proportionate to the return on investments, not only for individuals, but for our economic future.

Competitive Wisconsin, Inc. Goals for Educational Competitiveness

"Every child must graduate ready for further education and the workforce. We must align our efforts so our students benefit from both college and career preparation, learning the skills and knowledge necessary to be contributing members of our communities.

To build on our long-standing commitment to public education, Wisconsin must recruit and retain quality educators, invest in innovation, ensure safe and respectful schools, advance accountability, and work toward fair and sustainable school funding."

Tony Evers, Superintendent of the Wisconsin Department of Public Instruction

Every Wisconsinite should have access to education or training past high school leading to a technical college degree or diploma, occupational credential, industry certification, or one's first two years of a four-year degree—to be pursued at whatever point and pace makes sense for individual workers and industries. Every person who lacks basic skills must also have access to the basic education needed to pursue middle-skill occupational training.

Skills to Compete-Wisconsin

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Who is this guide for?

This guide is written for secondary and post secondary education professionals to create Career Pathways to connect secondary to postsecondary programs to 21st century careers. This will make existing or new work in career pathways a sustainable, systemic change in schools/districts and post secondary institutions in Wisconsin. In this critically important work, education professionals must collaborate and leverage our resources at all levels to realize long-term, sustainable gains. Education professionals must also ensure that pathways initiatives are done exceedingly well, incorporating continuous improvement mechanisms at each phase: "Career pathways, done well, don't just build workforces. They change lives" (McClenney, 2006).

Education professionals range from secondary to post-secondary, from administration to classroom teachers to student services, from career and technical educators to occupational instructors to academic teachers. Stakeholders are community and business and industry individuals with a specific interest in advancing Wisconsin's workforce and economy through education.

How to use this guide

This guide has three sections, not necessary in sequential order but intended for educational professions to pick and choose sections as needed.

The first section provides background on the career cluster and pathway initiative. This section provides information on why the Career Pathway work is important and what the Career Pathway initiative is. This section is great for practitioners new to the Career Pathways or for those who are interested in a refresher on Career Pathways.

The second section contains the ten components of Career Pathways. These components are not sequential and both secondary and post-secondary education professionals utilize each component at different levels. These components were adopted from the national model developed by The United State Department of Education, in collaboration with major national associations, organizations, and states. These are the critical building blocks of successful Career Pathway development. See the appendix for the model from the US Department of Education.

Lastly, the final section is the hands on "how to do it" portion of the career cluster and pathway implementation framework within the ten components of Career Pathways. This section contains tools and checklists to help practitioners along the way.

The appendix is also full of tools including a glossary of key terms and other additional resources

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What and Why?

Why Should Professional Educators Care?

There exists a multitude of reasons for embracing the career cluster and pathway initiative including providing student skills for the 21st century, moving the economy of Wisconsin and the United States forward, building a competitive workforce, and aligning to federal Perkins legislative; to name a few.

National Leaders embrace the pathway initiative

It's an economic issue when the unemployment rate for folks who've never gone to college is almost double what it is for those who have gone to college. Education is an economic issue when nearly eight in 10 new jobs will require workforce training or a higher education by the end of this decade. Education is an economic issue when we know beyond a shadow of a doubt that countries that out-educate us today, they will out-compete us tomorrow. (Obama, 2010)

"The future of our communities and of our country, not to mention countless individuals, depends significantly on the ability of community and technical colleges - along with their partners in education and the employer community - to do a far better job of moving students to and through their institutions, toward better jobs, and toward continuing education over a lifetime. (McClenney, 2006)

"Unless the skills gap within the United States is closed and employers can find the workers they need, and job seekers have the skills to pursue the opportunities that will exist, then America's economy will remain vulnerable.... The stakes are high: freedom of trade and commerce; personal and political liberty; and national and individual security." (Sampson, 2001)

Current research shows students who are engaged in a rigorous and relevant sequenced curriculum with direct linkages to post secondary programs or careers are more likely to graduate and are better prepared for success in a career or program. (Karp et al, 2007 and Lekes et al, 2007)

This initiative is not new. The National Association of State Directors for Career and Technical Education Consortium (NASDCTEc) and their Board of Directors assumed leadership of the Career Cluster Initiative in the United States, in conjunction with the Office of Vocational and Adult Education (OVAE) at the US Department of Education. This initiative has identified 16 clusters representing career opportunities for the 21st century. (Losh, 2002) High schools and technical colleges have invested resources and talent over the past five to ten years to develop

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the concept and various implementation models. Among the major players are the National Association of State Directors of Career Technical Education Consortium; the League for Innovation in the Community College with its College and Career Transitions Initiative (CCTI); the Workforce Strategy Center; the National Career Pathways Network (NCPN); the Center for Occupational Research and Development (CORD); the Community College Research Center (CCRC) at Columbia University; the Ford Foundation's Bridges to Opportunity Initiative and the Joyce Foundation's Shifting Gears initiative (which supports the Regional Industry Skills Education (RISE) Initiative at technical colleges and workforce boards in Wisconsin).

Although the Career Cluster and Pathway initiative began and continues to be pushed from Career and Technical Education areas it is important to understand the initiative goes beyond Career and Technical Education. All facets of education are involved in preparing youth through a rigorous curriculum in preparation for college and a career.

Career Clusters are broad occupational groupings...an organizing tool defining education for post-secondary preparation and careers using 16 broad clusters of occupations and 79 pathways with validated knowledge and skill standards that ensure opportunities for all students regardless of career goals and interests. (For more specific information on the clusters and pathways please see the appendix).

Whereas career clusters are organized around occupational groups, similarly industry clusters or sectors are organized around industry. Sometimes career clusters align perfectly with an industry sector or cluster, sometimes not. This can be confusing to some as it may appear a specific industry is apparent in the clusters. For example, the energy industry sector or welding does not have a specific cluster as the occupational groupings in the industry sector fall within several career clusters including manufacturing, and architecture and construction.

The primary focus of this Implementation Guide is on how K-12 teams, and post-secondary educational leaders and employers can work to facilitate effective K-12 preparation and subsequent transition into post-secondary coursework and into careers. Therefore, the primary student population being addressed in this guide is the traditional K-14 and beyond student. The standard time assumptions are traditional semesters and academic years, etc.

However, it is important to note that Wisconsin colleges, employers and workforce partners are also involved in Career Pathway work for adults, who are beyond the traditional age of schooling. These learners need efficient and accelerated entry into the Career Pathways in order to master the content needed for higher-skills employment, 21st century jobs in emerging areas of Wisconsin's economy. Information on a focal point of these efforts, Wisconsin's RISE (Regional Industry Skills Education) initiative is available at www.risepartnership.org. Although the Program of Study work addressed in this guide and the RISE efforts in Wisconsin are designed to serve individuals of differing ages with multiple economic and family circumstances (and who therefore will access pathways through different methods and on different timelines), the two efforts are readily reconcilable as they share many core concepts as well as the structure of Career Clusters and Career Pathways, etc.

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What are Career Clusters and Career Pathways?

Career Clusters –The 16 broad **career clusters**

- Provide a framework for continuing contemporary, high-quality programs.
- Provide a framework for seamless education.
- Provide more career options for students.
- Provide a framework for organizing and reorganizing the delivery of career and technical education and needed 21st Century Skills.
- Provide understanding of knowledge and skill transfer and verification of qualification.

The 79 specific Career Pathways provide a clearer framework for seamless education. They are the core of workforce and economic development in our state. Career pathways:

Promote the connection between education and workforce/economic development.

Provide a seamless transition from high school to career or occupation preparation.

Focus on high skill, high demand, and high wage careers.

Increase emphasis on attainment of a technical skill proficiency, degree/credential.

The Career Pathways model provides a comprehensive policy and practice framework that addresses these issues and the ability to provide students with a range of relevant content in a variety of ways is a hallmark of the pathways approach. Each pathway is grounded in a set of four guiding principles:

1. **Pathways prepare students for post-secondary education and career.** A pathway is always about both objectives; it's never a choice between one or the other. Here's why: The probability of making a living wage in today's economy without some form of post-secondary education is already low and will only diminish. Increasingly, career success depends on post-secondary education and gaining a formal credential—a certificate, associate's degree, bachelor's degree, or higher level of achievement. If there ever was a day when high schools could be content to prepare some students just for college and others just for work, that day has past.

2. **Pathways connect academics to real-world applications.** Each pathway integrates challenging academics with a demanding career and technical educational curriculum. Pathways alter how core academic subjects are taught; they do not lower expectations about what is taught. Through the pathways approach, students are expected to achieve at high levels in mathematics, science, English, social studies, and foreign language. Students master these subjects through the power of real-world application—they learn by being presented with authentic problems and situations that are part of the modern workplace.

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3. **Pathways lead to the full range of post-secondary opportunities.** Pathways prepare students for all the avenues they might pursue following high school graduation: two and four-year college, certification programs, apprenticeships, formal job training, and military service. Each pathway represents a broad industry theme that can appeal to and engage a student regardless of prior academic achievement and post-secondary aspirations. Pathways can eliminate current practices that sort and track high school students in ways that limit options after high school.

4. **Pathways improve student achievement.** Pathways are based on accountability. They are designed to produce higher levels of accomplishment in a number of measurable arenas, including academic and technical scores, high school completion, post-secondary transitions to career and education, and attainment of a formal post-secondary credential. They also contribute, in ways that most conventional academic and career and technical education curricula do not, to increased student proficiency in vital areas such as critical thinking, problem solving, media and information literacy, and collaboration. Finally, pathways make an immediate difference—helping young people gain higher earnings right after high school and giving these students a leg up in the labor market while pursuing post-secondary education.

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Career Cluster Framework

Example

Career Cluster- Manufacturing

Career Pathway- Maintenance Installation and Repair

Program of Study-Electro-mechanical

Individual Learning Plan- Sammy Student plan for coursework and experience from ninth through 14 and beyond

Career Clusters-are broad occupational groupings based on a set of common *knowledge and skills (link to a stronger definition of knowledge and skills)* required for a specific career. Wisconsin has adopted the National 16 Career Clusters that also serve as a tool for organizing curriculum and instruction. Career Clusters provide opportunities for all students regardless of their career goals and interests. They are a tool for a seamless educational system that: blends rigorous academic/technical preparation, provides career development, offers options for students to experience all aspects of a business or industry and facilitates/assists students and educators with ongoing transitions.

Career Pathways are a sub-grouping of occupations and career specialties used as an organizing tool for curriculum design and instruction. Similar to career clusters, Career Pathways are grouped based on their requirements for a set of common knowledge and skills for career success.

A **Program of Study** is a specific career pathway defined by a local school/district partnership which is a sequence of instruction based on recommended standards and knowledge and skills, consisting of coursework, co-curricular activities, worksite learning, service learning and other learning experiences including Career and Technical Student Organizations (CTSO) The sequence of instruction provides preparation for a career.

An **Individual Learning Plan** (**ILP**) includes a program of study and learning that represents a fluid, living, breathing, mapped academic plan reflecting a student's unique set of interests, needs, learning goals, and graduation requirements. It goes beyond the "four-year plan" by recording the student's connections to the larger community including examples of community service and volunteerism; membership in community organizations like 4-H or church youth groups; participation in leadership activities outside of school; involvement in job shadowing, mentorships, and/or apprenticeships; and the pursuit of skill development through hobbies, athletics, and fine arts. See the school counseling and advising component for more information on this.

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Wisconsin's Sixteen Career Clusters and Their Pathways 2010

Agriculture, Food and Natural Resources
Agribusiness Systems
Animal Systems
Environmental Service Systems
Food Products and Processing Systems
Natural Resources Systems
Plant Systems
Power, Structural and Technical Systems

Architecture and Construction
Construction
Design/Pre-Construction
Maintenance/Operations

Arts, Audio/Video Technology and Communications
Audio and Video Technology and Film
Journalism and Broadcasting
Performing Arts
Printing Technology
Telecommunications
Visual Arts

Business Management and Administration
Administrative Support
Business Information Management
General Management
Human Resources Management
Operations Management

Education and Training
Administration and Administrative Support
Professional Support Services
Teaching/Training

Finance
Accounting
Banking Services
Business Finance
Insurance
Securities and Investments

Government and Public Administration
Foreign Service
Governance
National Security
Planning
Public Management and Administration
Regulation
Revenue and Taxation

Health Science
Biotechnology Research and Development
Diagnostic Services
Health Informatics
Support Services
Therapeutic Services

Hospitality and Tourism
Lodging
Recreation, Amusements and Attractions
Restaurants and Food/Beverage Services
Travel and Tourism

Human Services
Consumer Services
Counseling and Mental Health Services
Early Childhood Development and Services
Family and Community Services
Personal Care Services

Information Technology
Information Support and Services
Network Systems
Programming and Software Development
Web and Digital Communications

Law, Public Safety, Corrections and Security
Correction Services
Emergency and Fire Management Services
Law Enforcement Services
Legal Services
Security and Protective Services

Manufacturing
Health, Safety and Environmental Assurance
Logistics and Inventory Control
Maintenance, Installation and Repair
Manufacturing Production Process Development
Production
Quality Assurance

Marketing
Marketing Communications
Marketing Management
Marketing Research
Merchandising
Professional Sales

Science, Technology, Engineering and Mathematics
Engineering and Technology
Science and Math

Transportation, Distribution and Logistics
Facility and Mobile Equipment Maintenance
Health, Safety and Environmental Management
Logistics Planning and Management Services
Sales and Service
Transportation Operations
Transportation Systems/Infrastructure Planning, Management, and Regulation
Warehousing and Distribution Center Operations

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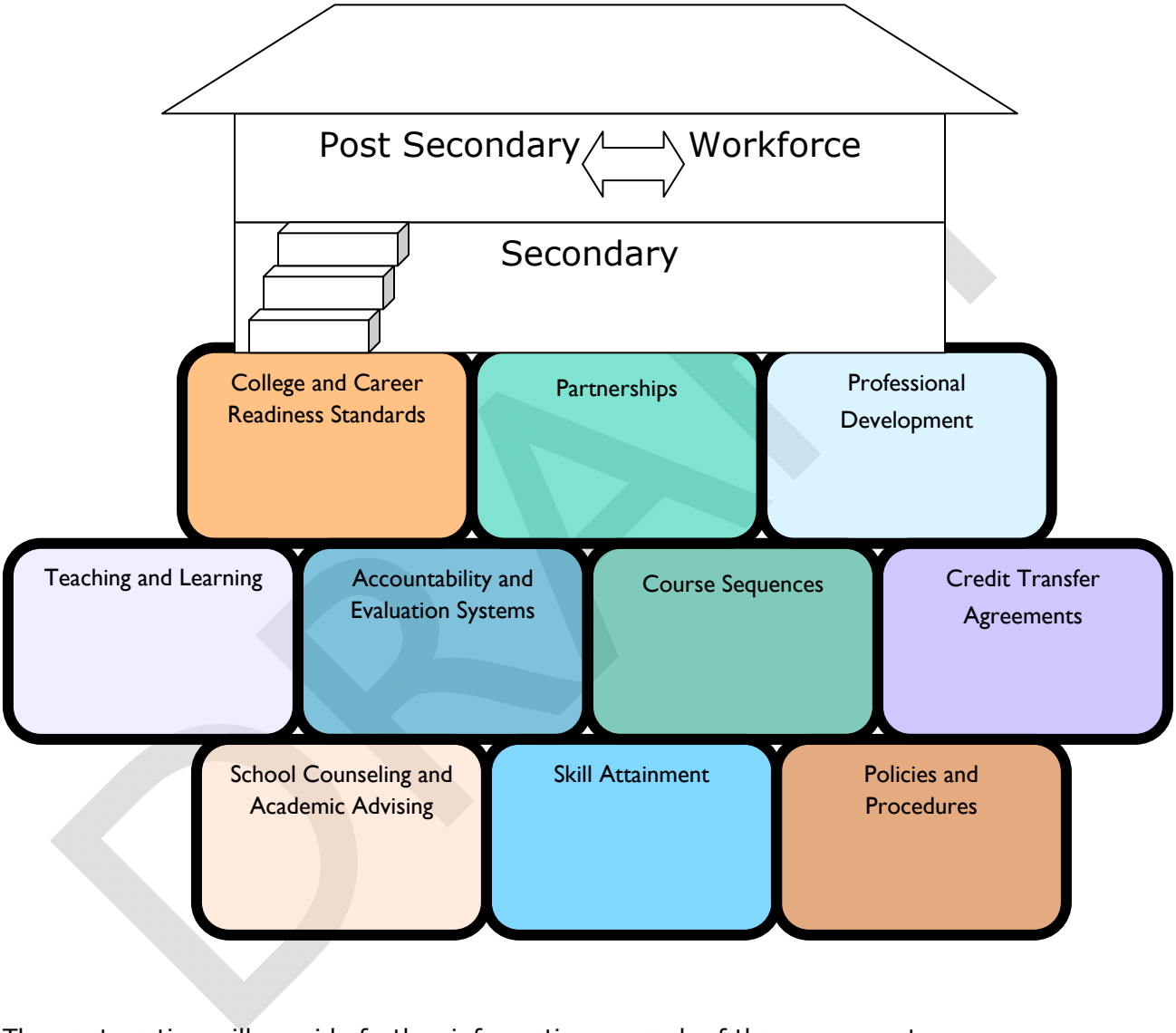
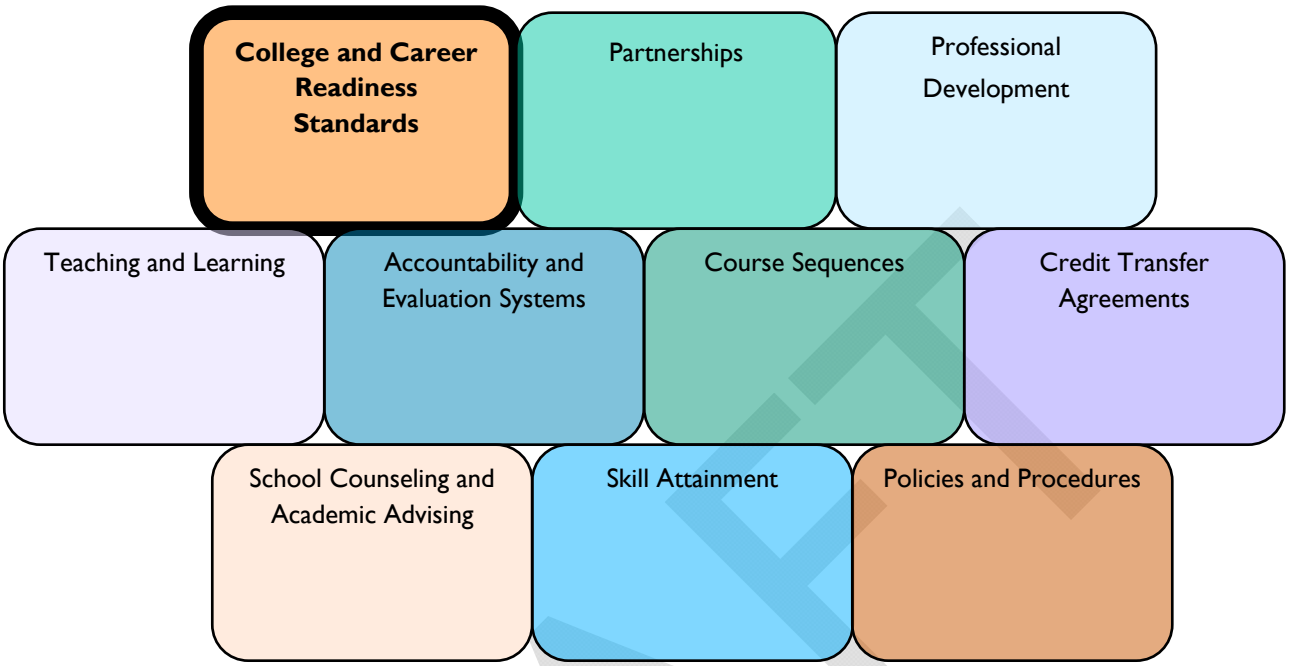
The Ten Components

The Ten Components as adapted for Wisconsin from Office of Vocational and Adult Education (OVAE), in collaboration with major national associations, organizations, and states. These components are like building a brick foundation. Each component is important and provides part of the foundation needed for a successful framework for career cluster and pathways in Wisconsin.



The next section will provide further information on each of the components.

College and Career Readiness Standards



The core of career pathway work revolves around content standards that define what students are expected to know and be able to do to enter and advance in college and/or their careers. These standards – contributed dually through local/regional discussion with education and business partners as well as through key national initiatives (such as the emerging Common Core State Standards, which Wisconsin will implement in coming years) -- provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them.

Steps

Develop and continually validate College and Career Readiness Standards in collaboration with post-secondary and industry partners, as well as with secondary colleagues

Utilizing a well developed partnership, educational professionals should align and collaborate on defining and validating standards required of students upon the multiple exit points on a career pathway. When students transition to a post secondary institution, clear standards or expectations of the skills the student will have for success should be clearly spelled out. (Note that in Wisconsin and nationally, postsecondary institutions have many similarities in the general readiness expectations for incoming students, especially in key academic areas of math, language arts, and science.) And as skills sets frequently change within occupations, a plan to continually revisit the standards should be in place.

When designing programs of study, understanding the technical and academic coursework transition between grades 12 and 13 requires conversations between secondary and postsecondary teachers and staff to discuss the "threshold" at which college programs

begin, to identify common content gaps/overlap, and to clearly understand performance expectations at the beginning of the 13th grade level of the Program of Study. These conversations among high school and college staff may be a relatively new development for some institutions, but they are critical to creating programs of study that are efficient and effective in helping students make progress toward their goals.

The focus of discussions among secondary, postsecondary and industry partners should be to create coherent, non-duplicative sequences of coursework through which students make progress without repetition or remediation (other sections of this guide will address these issues in more detail). Many programs of study will allow students to earn college credit while still in high school, but all programs of study should be designed to try to eliminate the remedial coursework that students have to take in college (nationally, 40% of high school graduates need remedial coursework when they get to college).

Incorporate essential knowledge and skills and provide the same rigorous knowledge of such skills (i.e., academic skills, communication, and problem solving), which students must master regardless of their chosen career area or POS

The most recent and most widely-supported work on knowledge and skills that are essential for American students is the Common Core State Standards initiative (http://www.achieve.org/achievingcommoncore). At the heart of the emerging Common Core State Standards initiative (in which Wisconsin schools will participate) lies a quest for every student to achieve a baseline of essential knowledge and skills. Educational professionals should incorporate this baseline as a starting point for discussions on the curriculum design for the pathway.

The Common Core State Standards initiative is based on the reality that, across the nation, there is an "expectations gap," a disconnect between what students need to know to earn a high school diploma and what they need to know to be successful in college and careers. The recently developed Common Core State Standards aim to help close this gap, as they are anchored in college- and career-ready expectations and were designed to ensure all students progress to the college and career-ready level by the end of high school. These college and career ready content standards (with their notion of a "line" or "threshold" that all students need to get to in order to be ready for college and careers) have been based on evidence from a number of sources, including international benchmarking, surveys of postsecondary faculty and employers, review of state standards, and expert opinion.

But the standards alone are not enough; local districts need policies in place to ensure that students have actually met the expectations in the standards. For instance, extensive national research suggests that for high school graduates to be prepared for success in postsecondary settings and in the 21st century workforce, they need to take four years of challenging mathematics — including content at least through Algebra II or its equivalent — and four years of rigorous English aligned with college- and career-ready standards.

As these standards are implemented in Wisconsin in coming years, POS teams need to be aware of how the standards should influence the content expectations of their programs of study. For example, it should be common for students enrolling in Programs of Study to be encouraged to select from a range of high quality mathematics options. For instance, a

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student interested in starting a business after high school could be in a POS that includes a course on mathematical decision-making. STEM-intending students should be in programs of study which strongly encourage them to take Precalculus and Calculus (and perhaps a computer science course).

The intertwined work of implementing Programs of Study along with the Common Core State Standards provides school districts with the opportunity to re-evaluate their high school graduation requirements – and course content – to ensure that ALL students are expected to take courses that will prepare them for college, careers and life.

Incorporate industry-recognized technical standards that are valued in the workplace. In addition to core academic skill mastery based on standards, each given pathway should provide opportunities for students to gain technical mastery. The technical mastery is defined with the assistance of the Career Pathway team including input from business and industry. As the technical master changes, the team should incorporate continued input into the technical skill standards to ensure students leave their respected institutions with the skills to succeed.

Stop and self evaluate this component

College and Career Readiness Standards	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Develop and continually validate College and Career Readiness Standards in collaboration with post-secondary and industry partners, as well as with secondary colleagues				
Incorporate essential knowledge and skills and provide the same rigorous knowledge of such skills (i.e., academic skills, communication, and problem solving), which students must master regardless of their chosen career area or POS				
Incorporate industry-recognized technical standards that are valued in the workplace.				

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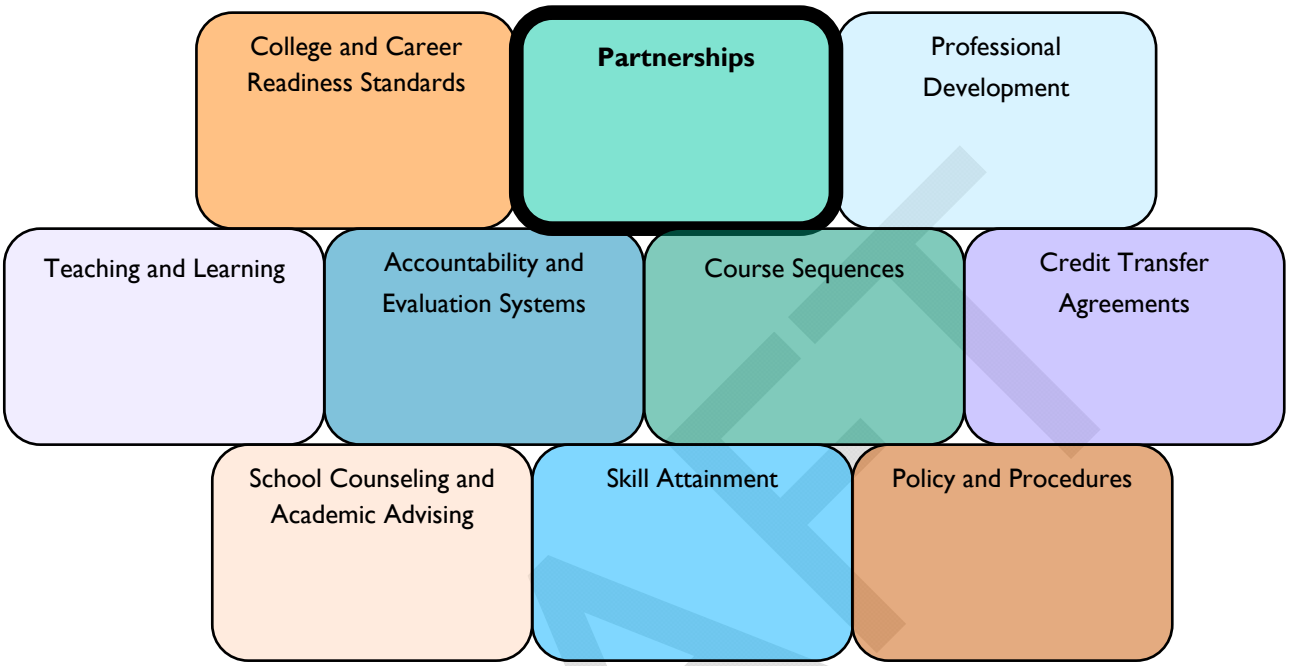
Partnerships



Cultivating partnerships is fundamental to successful career clusters and pathways framework in Wisconsin schools/districts/post secondary institutions. There are two types of partnerships that are essential: *internal* and *external*. Partnerships should include relationships within the school and/or district and/or post secondary institution in the form of curriculum integration. Relationships with constituents from business and industry and other civic entities or professional organizations within the community should be included. Identify representatives from internal and external sources to formulate a Career Pathway team that will manage and administer Career Cluster and Pathway framework development and implementation.

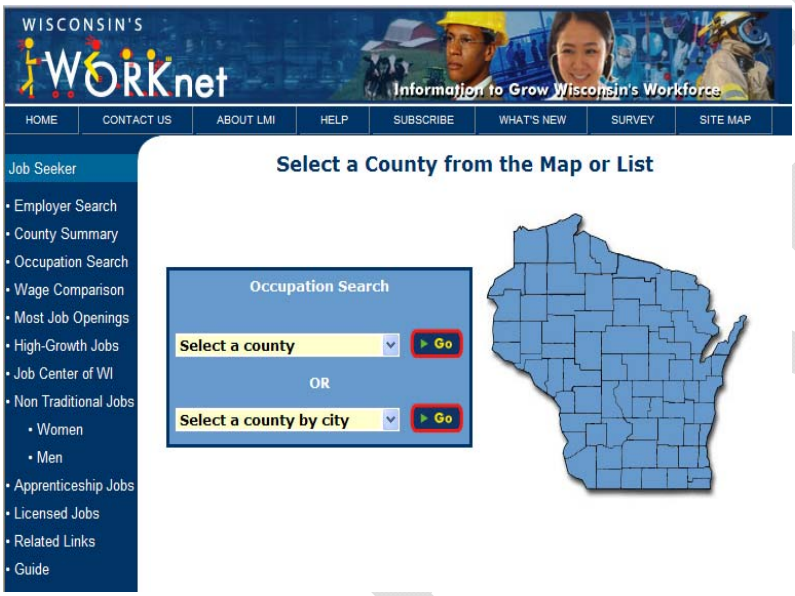
Steps

- ***Plan and elaborate on the goals, mission, or statement of purpose of partnerships.***
  Successful Career Pathway team partnerships begin with clear documentation. The school/district/post secondary institution should determine broad goals and intended outcomes of partner relationships and put them in writing to serve as the partnership's mission/purpose. Next, create written documentation that describes the roles and responsibilities of each individual/organization involved in a specific partnership. Without this documentation, roles, responsibilities, and expectations are unclear and it the partnership relationship will not be efficient, effective, or beneficial to the partners involved.

- ***Conduct ongoing analyses of economic and workforce trends.***
  Education professionals cannot make effective decisions about local, regional, or statewide Career Pathways to be created, expanded, or discontinued without being fully informed about current and future economic and workforce trends. It is up to education professionals

to be knowledgeable about jobs within the economy that the selected Career Pathway serves. Then, secondary teachers and school counselors along with post secondary faculty, and academic advisors must inform students and parents about those current and future trends. Teach students and parents how to find and interpret job information and trends as part of an assignment, a student-parent career planning session, etc. WISCareers and Career Cruising offer pertinent job information as do other state and national websites. Most jobs data is presented in the form of current statistics as well as short- and long-term projections based on job titles or standard industry codes. Remember that the Career Cluster and Pathway framework which focus on careers may actually prepare students for several jobs within a cluster and/or pathway.

A good place to gather job projection data is Wisconsin's WORKnet website. This site contains a variety of labor market information including high growth jobs, jobs with the most openings and the ability to search in a regional format.



- ***Link into existing local, regional and/or state initiatives that promote workforce and economic development.***

  Education professionals should work with other education, business and industry, workforce and economic development partners to identify existing and ongoing industry sector planning strategies and activities. Connect with local and/or regional workforce/economic development board. Become involved in Chamber of Commerce and other civic organization activities to find out what is going on in the community/region and consider how education can get involved to further enhance existing initiatives.

- ***Identify, validate, and continue to update the employability, technical and work readiness skills that should be attained within a Career Pathway.***

  Assuming the Career Cluster and Pathway team has conducted research about current and future economic and workforce trends and identified existing local/regional initiatives.

Existing articulation agreements should be examined. Articulation agreements from high school to technical colleges and universities are listed on technical college and university websites (WTCS articulations http://systemattic.wtcsystem.edu/reports/STW/articulation_agreements.htm). Course by course articulation agreements among post-secondary institutions can be found on the University of Wisconsin (UW) System Transfer Information System web site. For further information please visit the following websites please see http://www.witechcolleges.org/Benefits/Transfer/Agreements_by_College.htm and http://www.uwsa.edu/tis/

Once the Career Cluster and Pathway team has identified a Career Pathway, the school/district should establish an advisory council or board OR partner with an existing technical college advisory board. Advisory committee membership should consist of secondary and post-secondary education partners as well as business and industry representatives who are vital to the local community and/or region.

Stop and self evaluate this component

Partnerships	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Plan and elaborate on the goals, mission, or statement of purpose of partnerships.				
Conduct ongoing analyses of economic and workforce trends.				
Link into existing local, regional and/or state initiatives that promote workforce and economic development..				
Identify, validate, and continue to update the employability, technical and work readiness skills that should be attained within a Career Pathway.				

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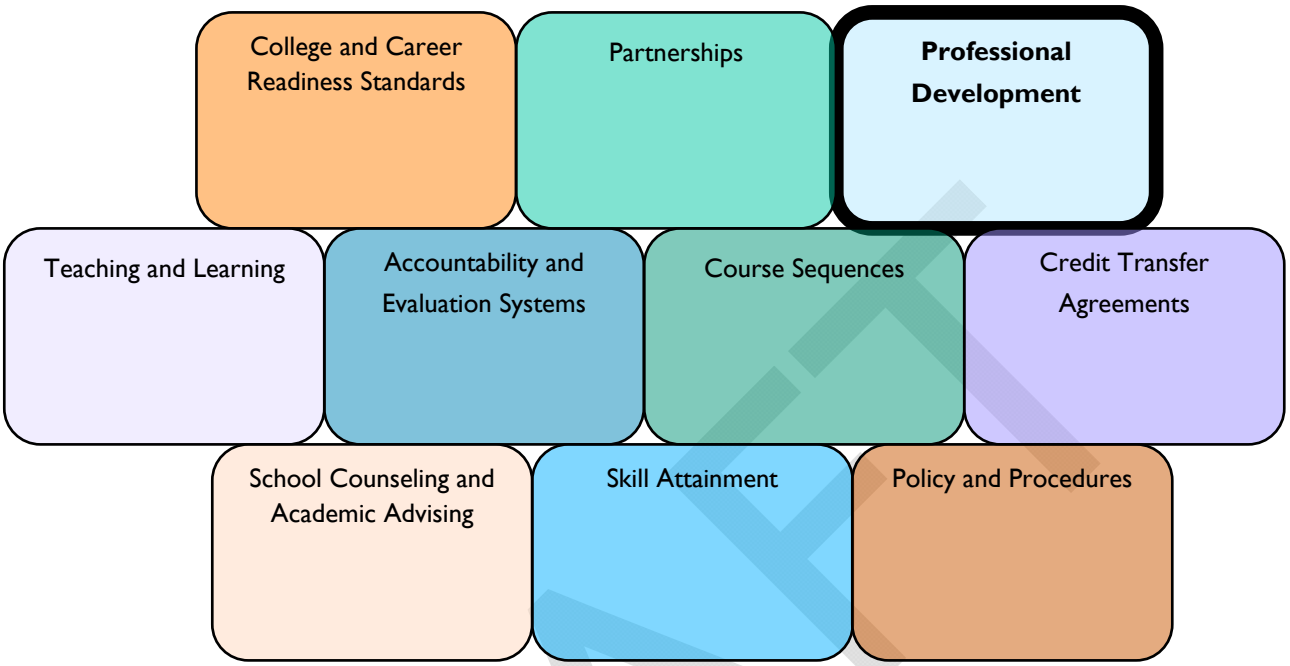
Professional Development



Professional development in a successful career clusters and pathways program contains opportunities for administrators, teachers, school counselors and other education professionals and stakeholders to foster Career Cluster and Pathway implementation and maintenance.

Steps

- ***Support the alignment of curriculum using national, state and industry standards.***
  Professional development opportunities must allow for a team approach to Career Cluster and Pathway research, development, implementation, and revision. The Career Cluster and Pathway team should consist of school counselor(s), core academic teachers, Career and Technical (CTE) teachers, a curriculum coordinator, business and industry representatives, post-secondary partners (including academic and occupational instructors/faculty and academic advisors), and legislators.

  Successful Career Cluster and Pathway teams need concentrated time together to evaluate the knowledge and skill statements within a Career Pathway and to align curriculum around the standards model. Then the team plans the curriculum from grade to grade (9 through 16) it is critical for secondary and post secondary partners to work together on the curriculum planning. More often than not, secondary partners are not fully aware of what post-secondary partners or business/industry is doing. Likewise, post-secondary partners may not be completely informed about the curriculum that students take prior to pursuing post-secondary education. Business/industry representatives in the community and/or region may not always have a good handle on everything that education constituents are doing. Therefore, one of the first activities a Career Cluster and Pathway team should

engage in is the examination and alignment of the knowledge and skills statements to determine if the existing curriculum is consistent standards, course syllabi and objectives, and program competencies or outcomes. Here is a sample agenda for a local professional development day.

Career Cluster and Pathway
Professional Development Agenda

- Welcome and Introductions
- Overview of Career Clusters and Pathways
- Review of Labor Market Data and Selection of a Pathway
- Review of Knowledge and Skill Statements
- Analysis of Existing Curriculum
- Identification of Gaps in Curriculum
- Development of Plan to Address Gaps
- Adjourn

Another resource for education professionals is this piece on incorporating knowledge and skills. http://www.dpi.wi.gov/cte/pdf/curriccrosswalk.pdf

- ***Support the development of integrated academic and career and technical curriculum and instruction.***

Promising Practices:

CTE and Academic teachers developed a Science of Transportation course at FVTC, this course is a hands on contextual course which teaches students physics and chemistry in their occupation.

When the Career Cluster and Pathway team convenes to examine and review knowledge, skills, standards and curriculum, the team must also work to integrate academic and career and technical coursework. This provides the whole picture of where in the curriculum the knowledge and skills required of the pathway is being obtained or taught. This process is considered a horizontal curriculum alignment and is critical because many education professionals teach courses in isolation, without knowing what their peer colleagues teach or how course content fits into the entire curriculum or relates to content from other courses. Research indicates concepts and information are best taught in context which challenges ALL education professionals to seek ways to integrate course content and partner in instruction in order to help students see connections in what they are learning (see Teaching and Learning).

- ***Ensure that teachers and faculty have the content knowledge to align and integrate curriculum and instruction.***

The academic and career and technical integration just described does not happen automatically. Because many education professionals have performed curriculum development and instructional responsibilities in isolation for so long and humans naturally

tend to revert back to that which is comfortable and familiar, they are often uninformed about what is going on outside their classroom walls. NOW is the time to provide teachers with professional development opportunities to update knowledge and skills within teaching content/discipline. Without these opportunities, curriculum updates and changes to instructional delivery does not happen. Further revisions may not be based on research, evidence, and current practice which would be a severe disservice to students and other stakeholders being served.

Examples of professional development opportunities:

- National conferences such as the Career Cluster Institute or the National Career Pathways Network conference
- Technical College-Tech Prep Workshops
- State Conferences
- Industry Conferences

➢ ***Provide multiple resources for professional development, locally, regionally, statewide and/or nationally.***

Local school/district and post-secondary administrators should assist teacher professional development by making resources available and helping to locate growth opportunities. In addition to local and regional opportunities, professional development experiences outside the district and/or region should be encouraged to broaden perspectives and expand ideas beyond that which is already familiar. If funding for professional development is limited in school districts and post secondary institutions, seek external grant funding sources.

Promising Practices

Send a team of education professionals to national conferences including CTE and Academic teachers, counselors and administrators.

➢ ***Offer professional development credit or graduate credit as an incentive for training.***

Local school/district and post-secondary administrators should work with post-secondary partners to offer professional development and/or graduate/undergraduate university credit as an added incentive for teachers to participate in training. If credit is not offered, teachers can seek out post-secondary institutions that may be willing to offer graduate or undergraduate independent study credit for the experience.

Education professionals can update their knowledge and skills in their content areas by participating in professional development activities such as:

- Work experience or externships
- State and national workshops, conferences, or seminars
- State/district task forces, review teams, or program reviews
- Professional service as a chairperson/officer or member of professional or community service organization board
- Graduate, undergraduate, or continuing education courses
- Industry/occupational certification/licensing
- Business/industry site visits
- Post-secondary classroom visits/observations
- Community service and/or
- National or international study tours.

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Stop and self evaluate this component

Professional Development	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Support the alignment of curriculum using national, state and industry standards.				
Support the development of integrated academic and career and technical curriculum and instruction.				
Ensure that teachers and faculty have the content knowledge to align and integrate curriculum and instruction.				
Provide multiple resources for professional development, locally, regionally, statewide and/or nationally.				
Offer professional development credit or graduate credit as an incentive for training.				

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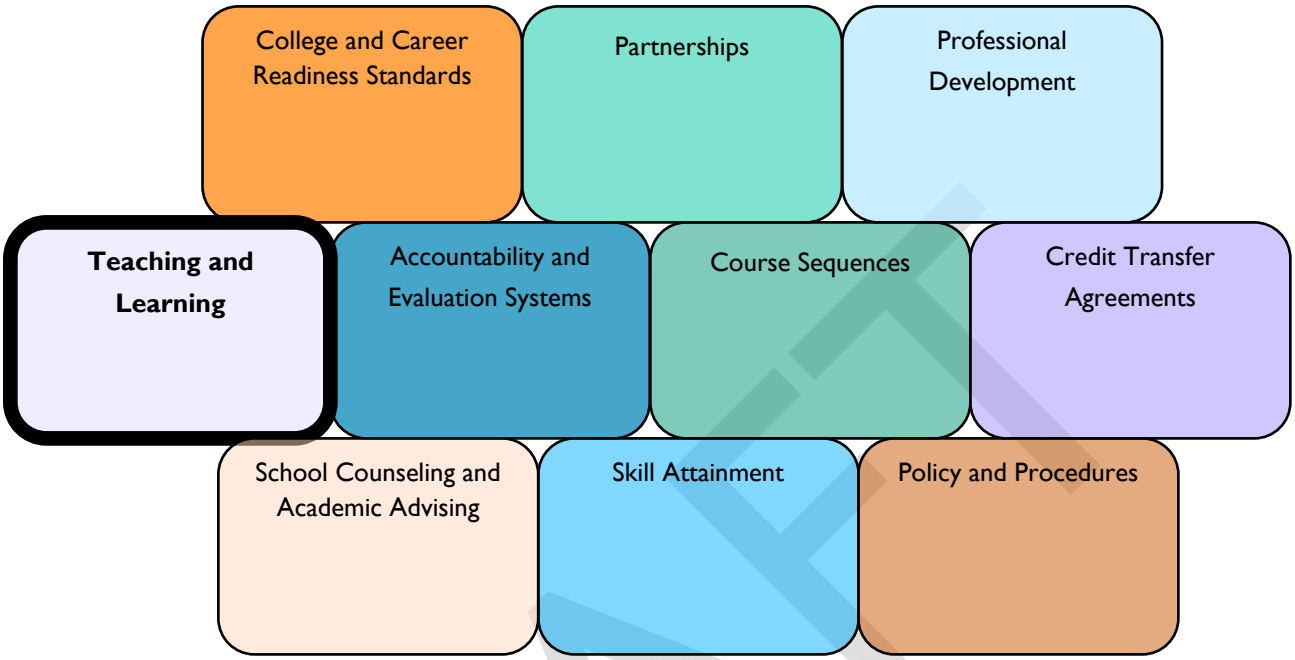
Teaching and Learning



Students come to any classroom environment with both preconceptions and misconceptions. It is important for every educational professional to learn about these conceptions and use them to help students successfully learn. To do this successfully, educators must draw from current research on human learning and apply that to the classroom; use research and apply it to instructional practices and designs; and finally, use research to help all students achieve fullest potential (NRC, 1999). With these key ideas in mind, effective learning takes place when:

- The transfer of learning takes place and skills and knowledge are extended beyond the original learning context,
- Learners must know when, where, and how to use the learned concepts,
- Learning must be guided by general principles or big ideas,
- Learners must understand how individuals learn, and
- Learners need conceptual knowledge in order to successfully make independent learning attempts.

Course and Career Pathway content should be delivered in a manner that requires students to be engaged with the content, requires students to be engaged with each other, and requires students to be engaged with the teacher. Engaging learners means that "all student activities involve active cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation. In addition, students are intrinsically motivated to learn due to the meaningful nature of the learning environment and activities." (Kearsley & Shneiderman, 1999)

Not only is instructional delivery important, but the school/district/post secondary institution should have an established process to review, evaluate and revise course content and examine/update course sequencing. Without such an internal system for curricular checks

and balances, your school/district/post secondary institution curriculum may be out-of-date and misaligned with business/industry needs.

Steps

- ***Focus on rigor and relevance for diverse students.***
  Teachers should aspire to establish a classroom environment that teaches students with high rigor and high relevance. Doing so causes education professionals to strive for excellence in the areas of curriculum, instruction, and assessment. An academically rigorous curriculum should be coherent across grade levels; meet state and district and post secondary institution graduation requirements; teach analytical thinking; learning, comprehension; and writing skills and integrate the knowledge and skills needed for students to pursue post-secondary options and be prepared for the workplace.

- ***Vary instructional strategies and employ contextualized work-based, project-based, and problem-based learning approaches along with multiple assessments.***
  Perkins IV recommends the secondary component of the Career Pathway define delivery of content (when and how content is taught) and include:
  - Contextual learning
  - Integration of academic and career content
  - Hands-on labs, simulations, demos and
  - Employer-provided work-based learning experiences

  In addition, research on good teaching and learning verifies that traditional lecture delivery alone does not help students learn at a deep level or retain information/concepts for very long. Teachers must vary delivery of the course content to actively engage learners in newer forms of delivery such as project-based, problem-based and challenge-based learning. Students learn more and will retain what is learned when teachers require them to apply, analyze, evaluate, and create through instructional delivery techniques that utilize student demonstration, student discussion, student practice, and students teaching others. Education professionals need to listen to students about what inspires them and how to best learn and adapt instruction and customize assignments to meet a variety of needs.

  When a variety of instructional delivery techniques are used in teaching, teachers also need to assess student learning differently. Traditional texts and quizzes that are comprised of true-false, multiple-choice, and matching questions are often used to assess learning from lecture or reading. However, when teachers create a student-centered classroom focusing on active learning, a variety of formative and summative evaluation tools that align with that style of delivery must be used. Teachers should evaluate both the learning ***process*** as well as learning outcomes (or ***product***). Teachers should evaluate mastery of academic as well as technical and employability skills at various points in time.

- ***Immerse diverse students in school and community partnerships.***
  Responsibility for student learning cannot rest solely on the classroom teacher. Instead, a variety of individuals must assume shared responsibility for developing and growing students into well-rounded, productive members of society who will be able to live and contribute to the local, regional, and state economy. Therefore, a team approach to developing, creating, and implementing a Career Pathway must be used (see Partnerships). Parents, business/industry partners and advisory committee members are a wealth of knowledge and can assist teachers in developing rigorous, real-world assignments.

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Classroom learning should also cross disciplinary boundaries. For example, students in a CTE class may create written technical documentation relating to course content that is then reviewed and edited by an English class. Another way to immerse students in partnerships is to offer and involve students in career and technical student organizations (CTSOs). For a listing of CSTOs in Wisconsin please see the appendix.

- ***Infuse technology as a natural extension of the content.***
  An essential component of 21st century skill outcomes for all individuals pursuing post-secondary options and/or entering the military or workforce is the utilization of technology. Furthermore, today's students live with 24/7 access to tools and resources that can aid in learning. Teachers can capitalize on the use of these tools to empower young minds and enhance creativity, innovation, and learning. Students can create a digital story, a wiki, a blog or a web page instead of a traditional written or oral report to document learning and intended assignment outcomes. What is even more exciting than the technology itself is that students can engage in collaborative learning to teach each other how to learn and use those technologies!

- ***Incorporate team-building, critical thinking, and communication skills, such as through the use of career and technical student organization (CTSO) or similar student organization activities.***
  Teachers should require diverse students to relate to each other through collaborative learning. When students have opportunities to relate to other students, engage in critical employability skills such as oral and written communication, planning, problem-solving, critical and analytical thinking, and teamwork; students are naturally engaged. In addition, employers demand expert thinking and complex communications, so when teachers required students engage in the Scientific Method collaboratively to solve problems, student motivation to learn increases and students are exposed to diverse perspectives they would not have considered if they worked independently. This type of classroom environment also fosters creativity and innovation.

  Not only can students learn academic, technical, and employability skills from collaborative, real-world course assignments, students can also master critical skills employers demand when they participate in co-curricular activities such as career and technical student organizations. In a Career Pathway, teachers and other education professional should expect and demand student participation in activities in and beyond the classroom environment to bridge the gap between formal and informal learning. CTSOs are essentially an extension of the classroom environment and student participation in such organizations as a part of individual Career Pathways will enhance learning in the areas of reading, writing, analytical thinking, reasoning, problem solving, and teamwork.

- ***Attract, prepare, and support each and every student and ensure equitable outcomes about different student groups.***
  If properly designed and implemented, a Career Pathway should open-doors for and attract numerous students, regardless of academic or social abilities, socio-economic status, ethnicity, or gender. In addition, all students need to be provided with academic and social supports to be successful throughout the Career Pathway. The school, district, and/or Career Pathway team must ensure there are adequate academic support mechanisms in place that incorporate school/district and post secondary institutional resources and practices such as regular and ongoing interaction between students and school counselors/advisors, Individualized Education Plans (IEP) and IEP teams, etc. Also, the school, district, post secondary institution and/or Career Pathway team should have a

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system in place to identify and engage students who are falling behind or at risk of falling behind and provide academic interventions that support successful student outcomes.

Stop and self evaluate this component

Teaching and Learning	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Focus on rigor and relevance for diverse students.				
Vary instructional strategies and employ contextualized work-based, project-based, and problem-based learning approaches along with multiple assessments..				
Immerse diverse students in school and community partnerships.				
Infuse technology as a natural extension of the content.				
Incorporate team-building, critical thinking, and communication skills, such as through the use of career and technical student organization (CTSO) or similar student organization activities.				
Attract, prepare, and support each and every student and ensure equitable outcomes about different student groups.				

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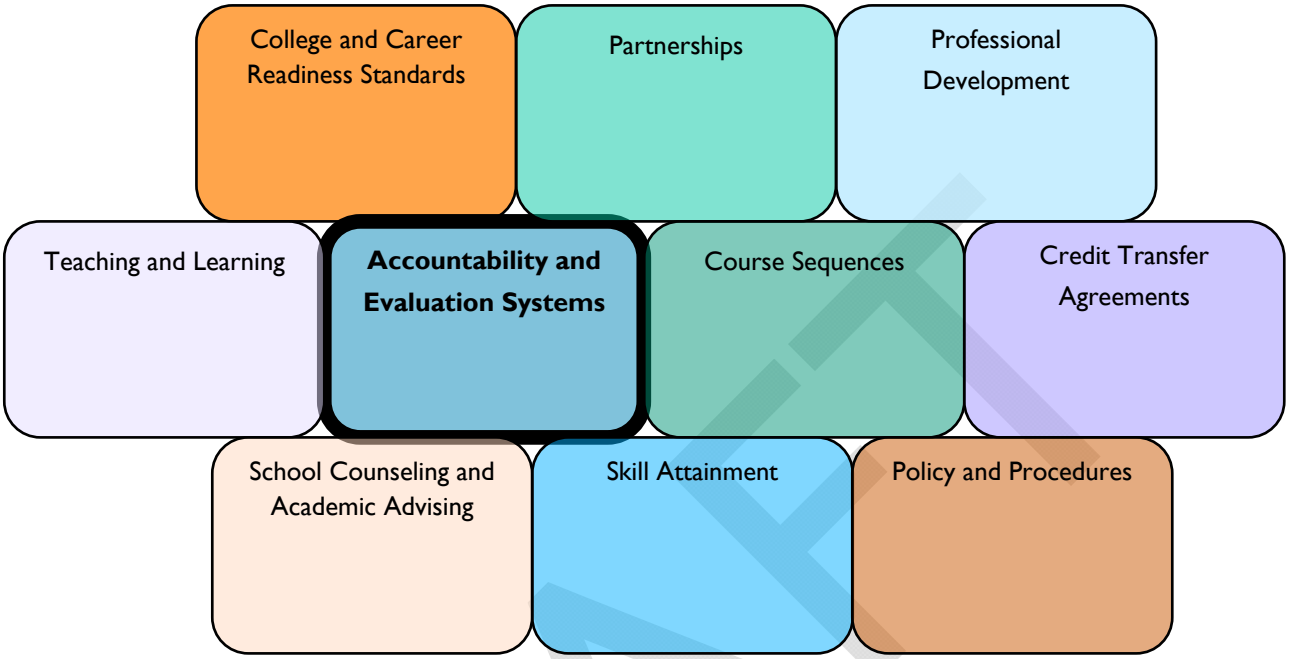
Accountability and Evaluation Systems



Evaluating programs and providing the ability to be accountable for decisions made is critical in career cluster and pathway implementation or any program for that matter. Simple questions asked around "Do the efforts made have an impact?", are good to keep in the forefront in an accountability and evaluation system.

The data obtained can be informal and/or formal. Data can be qualitative and quantitative. The data considered in the accountability and evaluation design should be for a regular, systematic data collection so that decisions and improvements can be made. Formal data collection systems in which data elements currently collected should be integrated into the accountability and evaluation system for Career Cluster and Pathway implementation as well as incorporating essential new data elements. Examples of state level data systems to consider when creating an evaluation design include:

- Client Reporting at WTCS (http://systemattic.wtcsystem.edu/MIS/default.htm)
- Tech Prep Indicators (http://systemattic.wtcsystem.edu/reports/STW/Index.htm)
- CTEERS (http://dpi.wi.gov/cte/veershome.html)
- WINSS (http://dpi.wi.gov/sig/index.html)
- Program of Study listing by school http://dpi.wi.gov/cte/xls/10clusterposdbweb.xls

Education professionals need to build their own evaluation and data collection systems, including informal ways supporting holistic views of career pathway implementation. It is imperative for individual teachers and school counselors to work with school and district personnel as well as post-secondary partners to solicit necessary data for decision making and continuous improvement.

Steps

- ***Identify and design an accountability and evaluation system which will meet the needs of federal and state regulation as well as provide timely evaluation information to all stakeholders.***

Education professionals should keep the end in mind when designing the evaluation system, which should align with the purpose of implementing Career Clusters and Pathways. Questions answered in the accountability and evaluation system will include the impact of the program of study on student achievement and engagement as well as meeting the local or regional workforce skill requirements.

Evaluation systems should answer how many students are engaged in a specific pathway, what are the completion (course/class, graduation) rates for students, what are the rates of remediation at the post secondary level. Information from business and industry regarding whether employees are coming to them fully prepared with the skills for the occupation should be included. At a state level WTCS collects this data in the with employer follow up surveys (http://www.wtcsystem.edu/reports/data/employer/index.htm). Data charts should include information education professionals can collect to make data driven decisions. Here's an example of a Perkins Annual Performance, Accountability, and Financial Status Report (CAR) which contains some data elements education professions can use.

Wisconsin Secondary Perkins III Core Indicators

		Reporting Year							
Core Indicator	**Measurement Value**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
1S1 - Academic Achievement	Moving on	20,848	35,392	31,336	35,743	35,376	35,107	33,126	35,342
	Universe (11 &12)	21,297	36,459	32,283	38,798	37,605	37,398	35,265	37,778
	% Moving on	**97.89%**	**97.07%**	**97.07%**	**92.13%**	**94.07%**	**93.87%**	**93.93%**	**93.55%**
OVAE Performance Standard		**97.61%**	**97.61%**	**97.61%**	**97.61%**	**97.61%**	**97.61%**	**95.00%**	**93.35%**
Met Standard?		**Y**	**N**	**N**	**N**	**N**	**N**	**N**	**Y**
1S2 - Vocational Skills	Total_all_Completers	28,354	10,274	11,523	13,951	8,757	10,329	10,247	11,244
	Total_all_Enrollees	28,924	11,644	12,704	15,650	10,092	11,868	11,451	12,626
	%_all	**98.03%**	**88.23%**	**90.70%**	**89.14%**	**86.77%**	**87.03%**	**89.49%**	**89.05%**
OVAE Performance Standard		**97.95%**	**97.95%**	**85.50%**	**86.00%**	**86.50%**	**86.50%**	**87.00%**	**87.65%**
Met Standard?		**Y**	**N**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
2S1 - Graduation	Graduates (12)	13,001	19,330	17,436	19,821	20,313	19,914	19,004	19,900
	Universe (12)	13,430	19,995	18,055	21,561	21,130	21,015	20,072	21,202
	% Graduating	**96.81%**	**96.67%**	**96.57%**	**91.93%**	**96.13%**	**94.76%**	**94.68%**	**93.86%**
OVAE Performance Standard		**96.47%**	**96.47%**	**96.47%**	**96.47%**	**96.47%**	**96.59%**	**95.00%**	**94.00%**
Met Standard?		**Y**	**Y**	**Y**	**N**	**N**	**N**	**N**	**N**
2S2 - Diploma/Credential	Total_all_Completers	28,354	10,274	11,523	13,951	8,757	10,329	10,247	11,244
	Total_all_Enrollees	28,924	11,644	12,704	15,650	10,092	11,868	11,451	12,626
	%_all	**98.03%**	**88.23%**	**90.70%**	**89.14%**	**86.77%**	**87.03%**	**89.49%**	**89.05%**
OVAE Performance Standard		**97.95%**	**97.95%**	**85.50%**	**86.00%**	**86.50%**	**86.50%**	**87.00%**	**87.65%**
Met Standard?		**Y**	**N**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
3S1 - Follow-up	Positive Outcome	10,584	8,560	7,036	9,058	9,341	10,202	10,124	
	Universe (C1 w/ FUP)	10,977	8,899	7,324	9,346	9,748	10,665	10,461	
	% Positive	**96.42%**	**96.19%**	**96.07%**	**96.92%**	**95.82%**	**95.66%**	**96.78%**	

- ***Examine data already collected to determine if there is existing data collection and elements can be used in the accountability and evaluation system of Career Pathway implementation***

Student achievement information originates from data sources such as state standardized exams including the Wisconsin Knowledge Concepts Examination (WKCE), Wisconsin Reading Comprehension Test (WRCT), American College Testing (ACT)/ Scholastic Aptitude Test (SAT) exams, graduation rates, drop-out rates, course pass/fail rates, Grade Point Average (GPA) and a multitude of data elements already collected at either a state level

and/or local level. This information may be valuable in the accountability and evaluation system.

Additionally some education professionals collect data at a very local level on students such as keeping track of students beyond graduation on an informal basis.

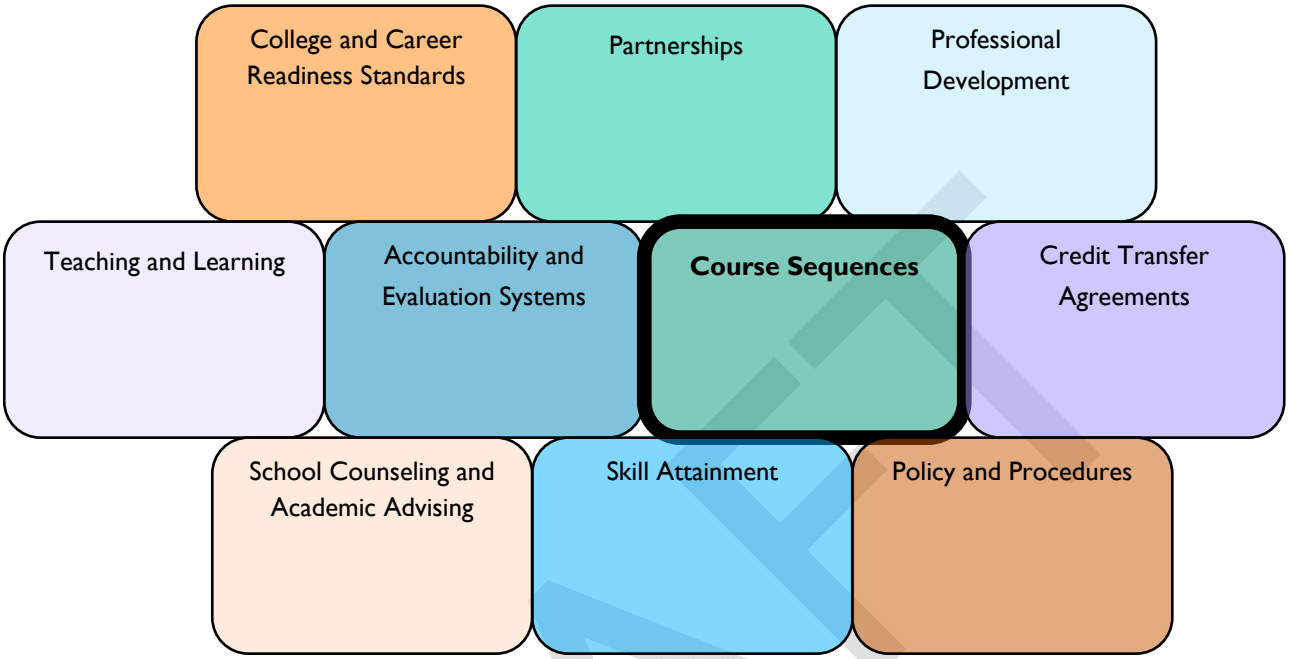
- ***Collect local and state data to evaluate Career Cluster and Pathway Implementation and provide formal and informal reporting to stakeholders***

In addition to utilizing already existing data to evaluate the Career Cluster and Pathway framework, some data elements may be missing and the evaluation and accountability system should develop a plan to collect the data. Identification of the type of data needed and the source of the data will guide reporting and decision making around the career cluster and pathway framework.

Stop and self evaluate this component

Accountability and Evaluation Systems	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Identify and design an accountability and evaluation system which will meet the needs of federal and state regulation as well as provide timely evaluation information to all stakeholders.				
. Examine data already collected to determine if there is existing data collection and elements can be used in the accountability and evaluation system of Career Pathway implementation				
Collect local and state data to evaluate Career Cluster and Pathway Implementation and provide formal and informal reporting to stakeholders.				

Course Sequences



Perkins IV requires that minimally, each local grant recipient is **required** to implement at least one Career Pathway/model sequence of courses (program of study). The Career Pathway must include BOTH the secondary and post-secondary coursework and experiences. The emphasis of the Career Pathway must be on one or more of the following: high wage, high demand, and/or high skill jobs.

Non-duplicative sequences of secondary and post-secondary courses within a Career Pathway ensure that students transition to post-secondary education without replicating classes or requiring remedial coursework. Furthermore, by planning a secondary and post-secondary sequence of courses within a Career Pathway, students can maximize opportunities for course articulation. Please see the appendix for a chart which describes and explains the differences between advanced standing and transcripted or dual credit.

Steps

- ***Map out the required and recommended academic and career and technical courses and/or other work-based learning opportunities and educational experiences in each Career Pathway.***

The process for mapping out required and recommended academic and CTE courses is as follows:

- Identify relevant national, state and industry standards
- Map standards to existing courses and/or update courses as needed
- Go to the Career Clusters web site (www.wicareerpathways.org) to access the POS template
- Insert the required secondary courses into the template

- Design/select 9 through 14 and beyond grade career-related courses
- Sort the required courses into technical core and technical specialty
- Add recommended opportunities for work-based learning, Career and Technical Student Organizations (CTSO) participation, volunteering, etc.
- Complete the template by filling in recommended electives or leave the electives open to student choice and;
- Insert the required and elective post-secondary courses into the template.

➢ ***Begin with introductory courses at the secondary level that teach broad foundational knowledge and skills that are common across all Career Pathways***

The secondary component must include these essential elements:

- Meets state academic standards and grade-level expectations
- Meets high school testing and exit requirements
- Meets post-secondary entry/placement requirements
- Provides foundation knowledge and skills in chosen clusters
- Provides opportunities for students to earn college credit through dual/concurrent enrollment or articulation agreements

In secondary Career Pathway courses, students should engage in academics in context, participate in career experiences, and develop basic work skills.

➢ ***Progress to more career and occupationally-specific courses at the secondary level that provide knowledge and skills required for entry and advancement in a chosen Career Pathway.***

As students progress through the Career Pathway, more technical skills are developed, they engage in more challenging academics, and work-based learning experiences occur.

The secondary component of the Career Pathway must also define curriculum content (what is taught) and include:

- Technical, academic, and 21st century employability skills required by employers
- State-mandated curriculum standards and graduation requirements
- Entrance requirements of partnering post-secondary institutions (i.e. Accuplacer, Compass, TABE, ACT, SAT, , etc.)
- Opportunities for students to earn college credit through dual/concurrent enrollment or articulation agreements and;
- Alignment and articulation with post-secondary certificates, diplomas, associate's degree programs and/or baccalaureate programs

➢ ***Offer opportunities for students to earn post-secondary credit for coursework taken during high school.***

Opportunities for high school students to take college level course work in order to get a head start on earning college credits while continuing to fulfill high school graduation requirements is accomplished through course articulation (transcripted credit/advanced standing). Keep in mind secondary schools are required to note the course articulation on student high school transcripts (see PI 26 documentation at http://dpi.wi.gov/cte/e4e2004.html). Formal articulation agreements between public school districts and post-secondary institutions must be in place in order for the credit to be valid. Once established, students benefit from articulation as it helps them transition seamlessly from one institution to another and/or one level of education to another (see Credit Transfer Agreements). Opportunities for students to earn college credit through dual/concurrent enrollment or articulation agreements must be included in the POS.

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- ***Progress to more career and occupationally-specific courses at the post-secondary level.***

In post-secondary courses, students develop advanced technical skills, advanced academic skills, and gain additional worksite experience.
The post-secondary component must include these essential elements:

- Additional opportunities for students to earn college credit through course transcription (transcripted credit or advanced standing).
- Alignment and articulation with baccalaureate programs
- Industry-recognized skills and knowledge in each cluster area
- Opportunities for placement in the chosen career clusters at multiple exit points

Understanding the Career Pathway course transition between grades 12 and 13 requires conversations between secondary and post-secondary teachers and staff to:

- Discuss threshold program content expectations,
- Identify areas of content gaps/overlap,
- Understand academic and technical performance expectations for the beginning of the 13th grade level of the POS,
- Identify pre-requisites that colleges may require for individual programs and courses, and
- Identify new assessments, course offerings or other ideas for smoothing and accelerating students' progress on their Programs of Study.

As part of these discussions, post-secondary institutions often have data to identify areas of high rates of incoming student remediation. For example, the Wisconsin Technical College System (WTCS) has a statewide report for the math, science, writing, etc. remediation needs of graduates from any Wisconsin public high school (that transition to the state's technical colleges). Data is also often available on incoming high school students' remediation rates sorted by their college program choices. Basic data such as this is typically available for the state's technical colleges by college as well. Your Tech Prep representative can help you locate and navigate through this data as well as with other data that might be available. Contact information for tech prep coordinators can be found on here (http://www.wicareerpathways.org/ContactUs.aspx). Here's a sample agenda of a high school articulation meeting with a technical college:

High School Articulation Meetings
2009-2010
4-6 p.m.

Agriscience and Technologies Agenda

- Dean/ Lead Faculty Welcome
- Center/Program Updates
- Career Pathways Updates
- Industry Updates
- Curriculum/Competency Alignment
- Professional Development opportunities

Another method for gaining information to help ensure smooth course sequencing is to have teachers review in detail course materials for the subsequent course in the Career Pathway. In some cases a teacher could potentially assist with (or even audit) the content of the next sequential course so that a better understanding of expectations of rigor and depth could be developed.

Stop and self evaluate this component

Course Sequences	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Map out the required and recommended academic and career and technical courses and/or other work-based learning opportunities and educational experiences in each Career Pathway.				
Begin with introductory courses at the secondary level that teach broad foundational knowledge and skills that are common across all Career Pathways				
Progress to more career and occupationally-specific courses at the secondary level that provide knowledge and skills required for entry and advancement in a chosen Career Pathway.				
Offer opportunities for students to earn post-secondary credit for coursework taken during high school.				
Progress to more career and occupationally-specific courses at the post-secondary level.				

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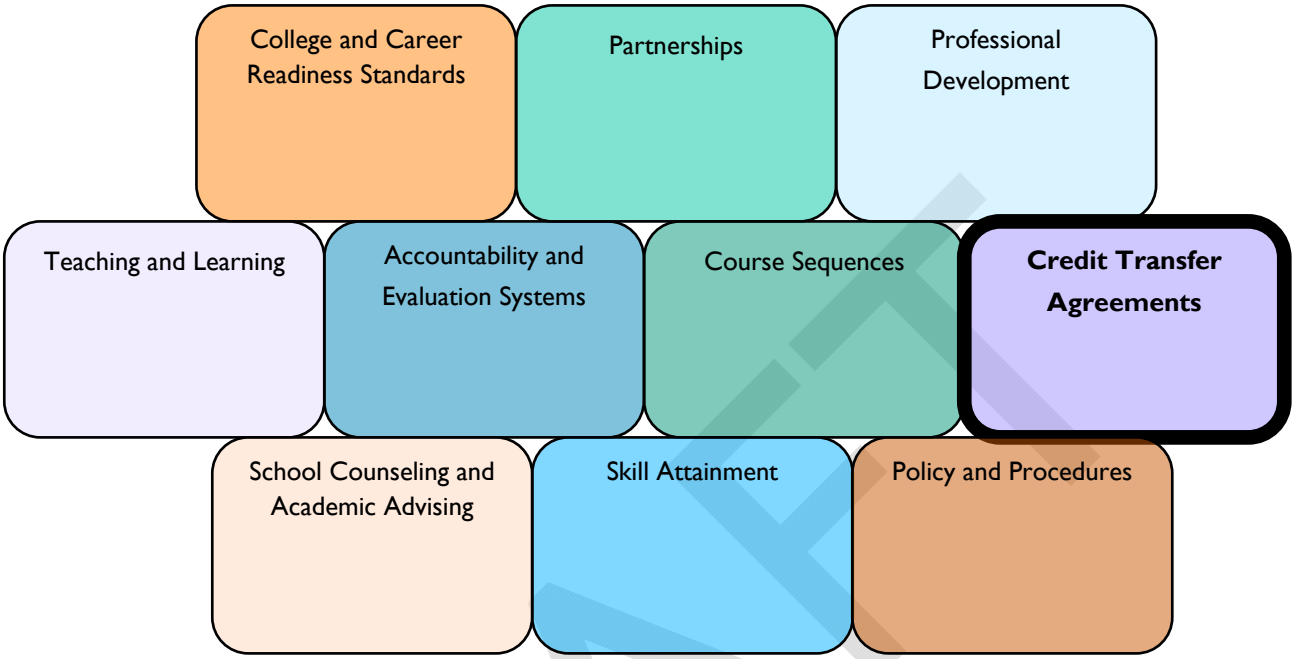
Credit Transfer Agreements



Articulation refers to aligning high school and post-secondary curricula to create sequences of courses offering skill attainment with unnecessary duplication. Articulation focuses on providing opportunities for high school students to take college level course work in order to get a head start on earning college credits while continuing to fulfill high school graduation requirements. Formal articulation agreements must be in place in order for the credit to be valid.

There are two types of articulation – *Advanced Standing and Transcripted Credit*. Advanced Standing is also referred to as "credit in escrow"; the credit is delayed until the student enrolls in the technical college program. Transcripted Credit is "direct credit"; the student is earning credit directly from the technical college and has an issued transcript. Articulation agreements within a POS are not mandatory, but should be incorporated where deemed appropriate by the partners involved. Please see the appendix for a chart which further explains and defines the differences between advanced standing and transcripted credit.

Articulation agreements are formal agreements created between public school districts and post-secondary institutions. Students benefit from both types of articulation as it helps them transition seamlessly from one institution to another and/or one level of education to another.

Wisconsin's Tech Prep program also aims to promote and support high school to college transitions for career and technical education students. Tech Prep grants may be awarded for enhancing a high school student's technical and academic skills and providing opportunities for transition to post-secondary education or into the workforce.

Steps

- ***Provide a systematic, seamless process for students to earn college credit for post-secondary courses taken in high school.***
  The goal of articulation or credit transfer agreements is to create opportunities for students to transfer high school credit to any two- and four-year institution in the state that offers the POS and/or transfer credit earned at a two-year college to any other two or four-year institution in the state that offers the POS. Because POS must include both secondary and post-secondary course sequences, it is not complete until all possibilities for articulation are reviewed or created and incorporated into the POS by the Career Pathway team.

  Articulation agreements from high school to technical colleges and universities are listed on technical college and university websites. Course by course articulation agreements among post-secondary institutions can be found on the UW System Transfer Information System web site. For further information please visit the following websites please see http://www.witechcolleges.org/Benefits/Transfer/Agreements_by_College.htm and http://www.uwsa.edu/tis/

- ***Note the college credit earned***
  When students earn college credit through advanced standing or transcripted credit or completion of an articulated course, the credit must be noted on either the high school transcript (which should be requested by the technical college) or directly on the technical college transcript. Making certain the credits appear on the student's transcript facilitates a seamless transfer into the post-secondary portion of the POS without the need for additional paperwork or petitioning for credit. Credit for Prior Learning may also be implemented when needed. As stated earlier, PI 26 requires secondary schools are required to note the course articulation on student high school transcripts (see PI 26 documentation at http://dpi.wi.gov/cte/e4e2004.html).

- ***Describe expectations and requirements***
  Articulation agreements must, at a minimum, clearly detail teacher and faculty certifications/qualifications if there is an agreement about which teacher(s)/instructor(s) from a particular school/institution will teach the articulated course or sequence of courses. The agreement must also clearly indicate course prerequisites, post-secondary entry requirements, the location of courses, tuition reimbursement, and credit transfer process so students, parents and secondary and post-secondary partners have a clear understanding of how the articulation process works and to be certain the student gets credit for articulated courses completed as part of a POS.

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Stop and self evaluate this component

Credit Transfer Agreements	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Provide a systematic, seamless process for students to earn college credit for post-secondary courses taken in high school..				
Note the college credit earned				
Describe expectations and requirements				

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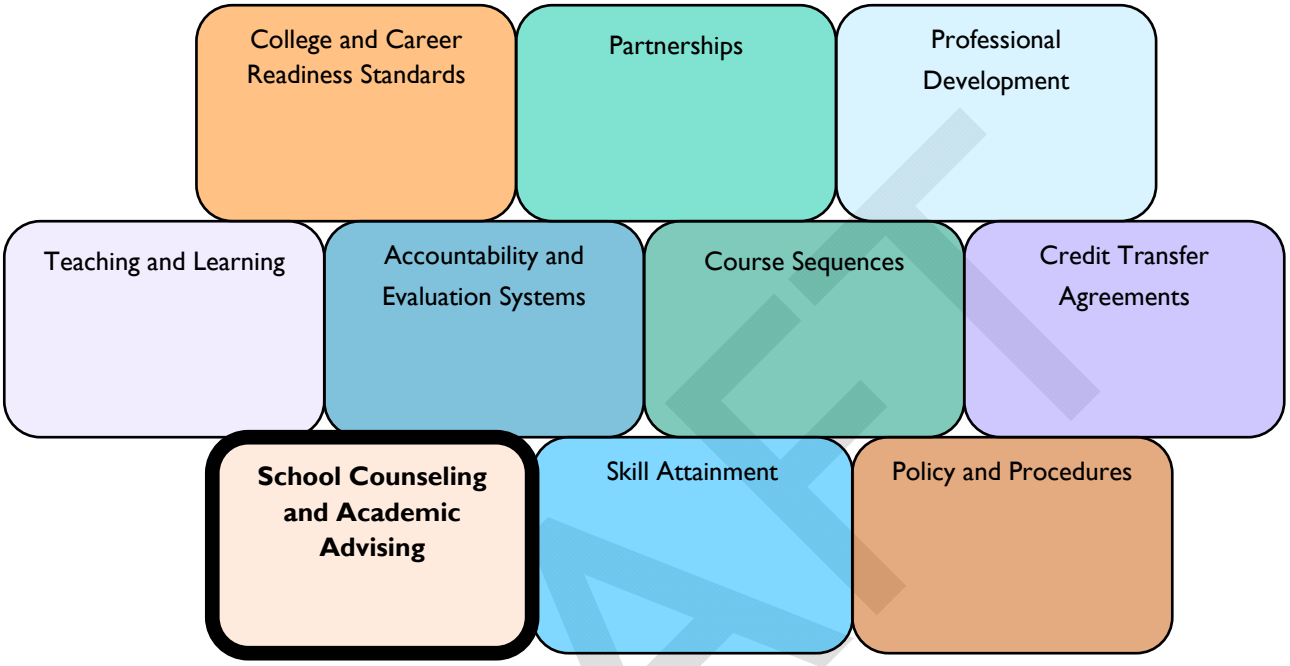
School Counseling and Academic Advising



Academic and career counseling is provided through K-12 comprehensive school counseling programs and post secondary advising programs, and helps students make informed decisions about which Career Pathway to pursue. Many professionals use "who am I?", "where am I going?", and "how do I get there?" as a framework to help students navigate the career development process Wisconsin's Model Academic Standards for School Counseling identify three standards in the career domain. In order to meet those standards, , school counselors, in collaboration with other educators, develop a program of career education services that includesK-12 career development curriculum, responsive services, individual planning and system support, and is shared with school and district staff, including the local board of education

Post secondary advisors assist students to progress through educational program planning and course selections consistent with their career goals. Since post-secondary students may be at different levels of readiness to select a program of study, or in need of assistance in selecting a new career direction, the services of various student support staff are integral to delivering career development services at that level. Depending on the size of the postsecondary institution and its staffing patterns, career development professionals, counselors, financial aid administrators, special services support staff and others may be involved in supporting students to select and persist in POS choices.

Steps

- ***Based on state and national school counseling or advising standards.***
  It is required that a school district's comprehensive school counseling program must comply with PI 8.01(2)(e). It is further recommended that school districts ground their comprehensive school counseling programs in the Wisconsin Department of Public Instruction's Model Academic Standards for School Counseling as well as in the American School Counselor Association's National Model and its Ethical Standards for School Counselors, and in the National Career Development Guidelines. Counselors, advisors, and other professional educators involved in delivering school counseling program activities and services take advantage, on a regular basis, of professional development opportunities which will prepare them to implement and improve the program. These may include trainings in the ASCA National Model; the Level I, II, and III trainings in the Wisconsin Comprehensive School Counseling Model; and relevant workshops and seminars at the conferences of their professional associations.

- ***Ensure school counselors have access to up-to-date information about Career Pathway offerings.***
  Successful implementation of Career Pathways in a school district requires a team approach. A team consisting of school counselor(s), core academic teachers, CTE teachers, a curriculum coordinator, business and industry representatives, post-secondary partners, and legislators spearheads the development and implementation of quality Career Pathways, and assists with ongoing revisions to them. Partnerships among secondary and post-secondary school counselors and academic advisors enable accurate Programs of Study to be built. Once Career Pathway information is disseminated to parents, students, and other stakeholders, school counselors and teachers to work together with individual students to further their career and interest exploration, and to support their decision-making regarding the choice of a suitable Career Pathway.

- ***Offer information and tools to help students learn about post-secondary education and career options.***
  Teachers and school counselors must be aware of post-secondary and career options including prerequisites for a selected Career Pathway. Because it is nearly impossible for every student to be aware of every possible post-secondary program option and career within a given Career Pathway, teachers and school counselors need to know where to direct students to such information. The Wisconsin Career Pathway website at www.wicareerpathways.org is a robust resource where professional educators can locate information on program options for specific pathways at Wisconsin post secondary institutions. As an assignment in a Career Pathways course, students may also be required to research post-secondary and career options Resources are found within WISCareers and Career Cruising as well as at the Wisconsin Career Pathway web site. Additional web resources are also noted in this guide.

- ***Offer resources for students to identify student career interests and aptitudes and to select an appropriate Career Pathway.***
  In the secondary setting, teachers and school counselors provide opportunities for students to take career interest and learning style inventories beginning in 4th grade and continuing through high school (with benchmarks at 8th and 12th grade). Because it is optimal for students tobase their career plans on a variety of career awareness and exploration experiences, inventories that assess work values, learning styles, career interests and aptitudes, etc. are explored as part of career classes and are incorporated into Career

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Pathway courses. Several inventories have been written for students at the elementary level. School counselors and teachers will want to be knowledgeable about the inventory, its development, and its validation so they can speak accurately to parents and students about what the results indicate. In this way, school counselors and teachers can assist students and their parents to interpret inventory results and compare the results from multiple assessments to determine which Career Pathway is right for them.

- ***Provide information and resources for parents.***
  Parents are an integral component of academic and career planning. Not only are they their children's first career development role models, they also generally want what is best for children and may strongly influence course selection, post-secondary and career decisions. Therefore, it is ideal for parents to be involved in the career exploration and development processes that their student 's experiences. Because parents may have limited viewpoints about post-secondary and career options based on their personal experiences, the school counselor's goal is to communicate on a regular basis about the options available. Providing parents with credible resources and information will help them to assist their students to make e informed career planning decisions.

- ***Offer Web-based resources and tools for obtaining student financial assistance.***
  Once a student selects a Career Pathway, the student and his/her parents will be interested in information about financing the post-secondary choices Professional educators can provide access to that information. They can also direct students and parents to other experts who can help students learn more about financial assistance and how to apply for it.

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Stop and self evaluate this component

School Counseling and Academic Advising	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Based on state and national school counseling or advising standards.				
Ensure school counselors have access to up-to-date information about Career Pathway offerings.				
Offer information and tools to help students learn about post-secondary education and career options.				
Provide information and resources for parents.				
Offer Web-based resources and tools for obtaining student financial assistance.				

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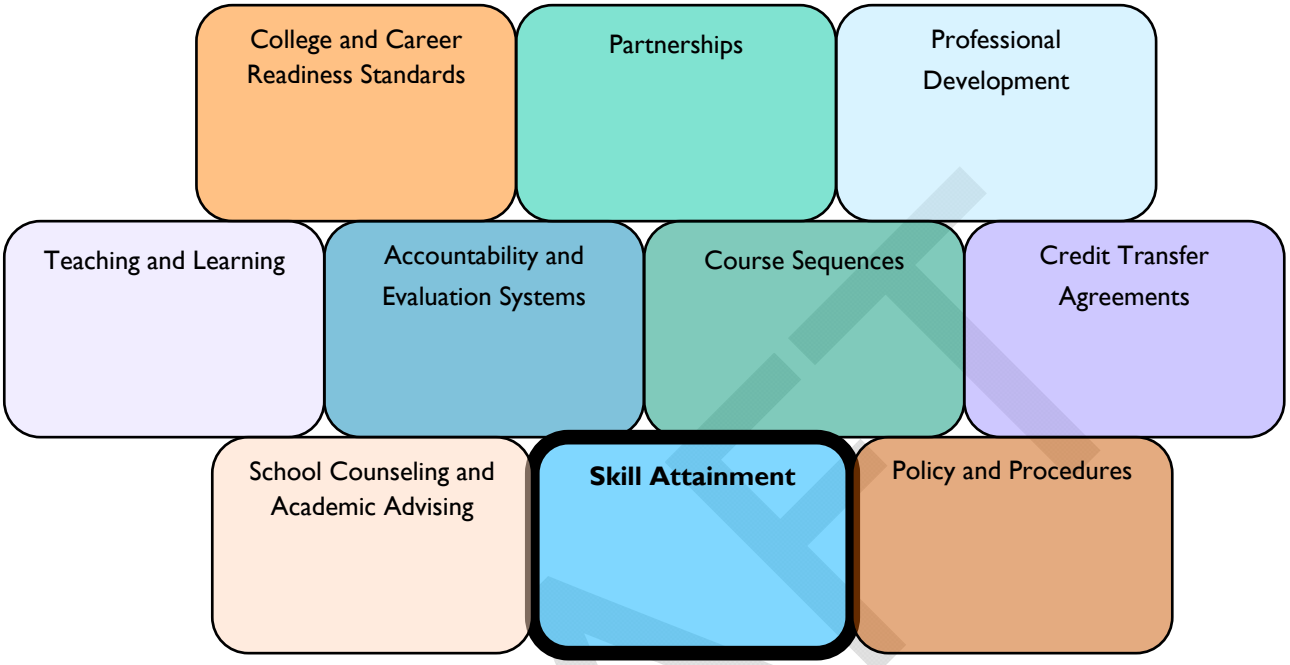
Skill Attainment

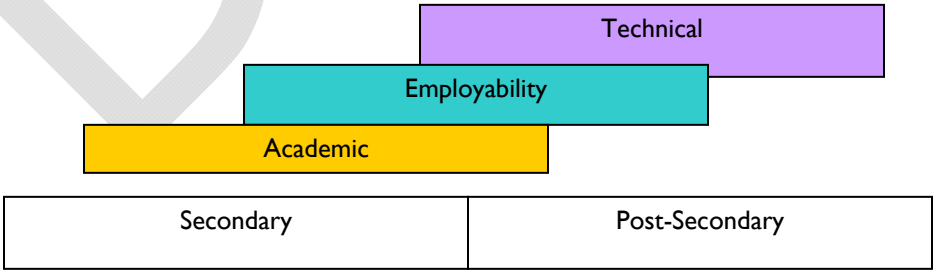


National, state, and/or local assessments provide ongoing information on the extent to which students are attaining the necessary knowledge and skills for entry into and advancement in post-secondary education and careers in their chosen Career Pathways.

Assessments vary by the target skill being assessed including:

- Technical skill attainment
- Academic skill attainment
- Employability skill attainment (21st century skills)

These assessments are places at a variety of places from secondary to post secondary. Usually post secondary focuses more on technical skills and employability skill assessments. Secondary focuses primarily on academic and employability skills, however does incorporate some technical skill assessments.



Career Pathways must include the acquired technical, employability, and academic skill attainments throughout the journey of a program of study. Career pathways include and ultimately lead to required licensure, credential or other recommended attainment for the occupations within the pathway, thus aligning secondary and post secondary pathways with

educational and work requirements. The assessment process is built within educational programs ensuring students are acquiring technical, academic and employability skills. Skill assessments can be traditional paper/pencil tests, but may also be other types of formal and informal evaluation. For example, a teacher or business/industry expert may complete a rubric or checklist consisting of skills and competencies based on observation of a student completing a performance task or process. Also, a rubric or checklist may be used to assess cumulative skills students used to create an end-product.

Skill attainments may include employability skill certificates, state certified co-ops, Work Keys or a variety of very occupational specific skill attainment measures such as Automotive Service Excellence (ASE) or National Council Licensure Examination (NCLEX) or other state department and regulation. Academic skill attainment is often measured in Compass, Accuplacer, TABE, ACT, SAT or State standardized tests such as WKCE.

Steps

- ***At the secondary level, measures of skill attainment are incorporated at appropriate places in the pathway, demonstrating the student is ready for college or a career.***

  Skill assessments ensure the student is ready to enter and succeed in post-secondary educational programs or employment. Technical skill, academic skill and employability skill attainment measures technical skill proficiencies, employs state developed/approved assessments and/or industry approved assessments. Performance based assessment items are incorporated to the greatest extent possible so students are allowed opportunities to demonstrate application of their knowledge and skills. National or state skill standards are incorporated throughout the POS curriculum.

  Examples of secondary skill attainment measures may include employability skills certificates, academic skill measures including ACT or SAT or Accuplacer examinations and technical skill attainments such as a state certified co-op completion.

Sally Student's Formal Skill Attainment Journey

High School-Accuplacer
Certified Nursing Assistant Attainments

Post Secondary

Work Keys and NCLEX certifications

- ***At the Post-Secondary level, measures of skill attainment are incorporated at appropriate places in the pathway, demonstrating the student is ready for an occupation:***

  Skill assessments ensure the student is ready to enter and succeed in a career. Technical skill, academic skill and employability skill attainment measures technical skill proficiencies, employs state developed/approved assessments and/or industry approved assessments. Performance based assessment items are incorporated to the greatest extent possible so students are allowed opportunities to demonstrate application of their knowledge and skills. National or state skill standards are incorporated throughout the POS curriculum.

  Post secondary skill attainments include employability certificates such as Work Keys and technical skill attainments specific to the occupation such as regulation and licensure, apprenticeship completion, ASE, NCLEX and other occupational specific credentials and licenses.

Stop and self evaluate this component

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Skill Attainment	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
At the secondary level, measures of skill attainment are incorporated at appropriate places in the pathway, demonstrating the student is ready for college or a career.				
At the Post-Secondary level, measures of skill attainment are incorporated at appropriate places in the pathway, demonstrating the student is ready for an occupation:				

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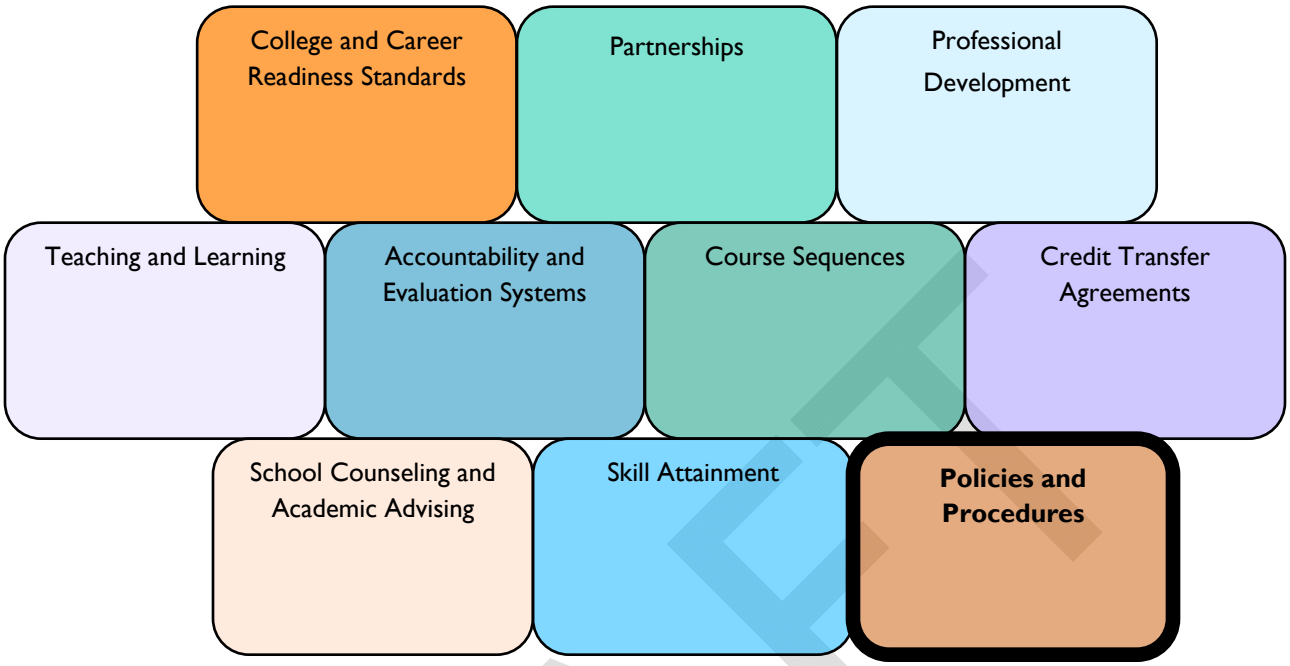
Policies and Procedures



Policies and Procedures

This section addresses how federal, state and local policies and procedures may support and promote the development and implementation of a Career Cluster and Pathway framework. Policy efforts that focus on rigorous academic and technical courses, community and employer participation, school counseling, career development, transcripted credit, education for employment, high school graduation requirements, vertical and horizontal curriculum alignment, articulation agreements, career and college readiness, evaluation and accountability, professional development and partnerships are essential to advance career clusters and pathways within Wisconsin schools/districts.

Steps

Review and revise existing school/ district and post-secondary institutional policies and examine procedures to determine the impact on Career Cluster/Pathway implementation. Existing policies and procedures are a good starting point to determine if policies and procedures promote or conflict with Career Pathway implementation. State level policies include but are not limited to:

→ the state Perkins plan (http://systemattic.wtcsystem.edu/Grants/Perkins-4/planning/five-year-plan-v9a.pdf),

→ the credit for prior learning at the WTCS (http://www.wtcsystem.edu/board/pdf/policy_manual.pdf),

→ grant guidelines and application materials (http://systemattic.wtcsystem.edu/Grants/Perkins-4/perkins4.htm for WTCS and http://dpi.wi.gov/cte/cpahome.html for DPI).

The school/district may already have policies established for working with post secondary partners. Examples of local policies or procedures which may include but are not limited to:

→ The mission and vision of CTE programs
→ Procedures for informing students of career pathways
→ Career development policies
→ Work based learning opportunities
→ Tech Prep policies

A conversation with a local CTE coordinator and a post secondary Tech Prep coordinator may be beneficial. A listing of the 16 Tech Prep coordinators and contact information can be found here http://www.wicareerpathways.org/ContactUs.aspx

Determine and ensure education professionals, students, and community stakeholders are aware of policies and procedures supporting Career Cluster/Pathway implementation.

First and foremost all stakeholders involved in this process should be aware and working within the existing or newly developed policy and procedures supporting Career Cluster Pathway implementation. This may involve a school/district/post-secondary institution evaluating stakeholders on knowledge and application of the policies and procedures such as understanding the state Perkins plan and reviewing the tech prep grant application. See the professional development component on further information on educating stakeholders about the career cluster pathway implementation.

Provide for sufficient funding and other resources for Career Cluster/ Pathway implementation.

Time and time again, education professionals are enthusiastic about developing career clusters and pathways and implementing a Career Cluster and Pathway framework, but their passion to get things done is stifled by limitations and challenges presented in their schools/districts. Administrators need to dispel attitudes such as: *what is the minimum we have to do to be in compliance with Perkins IV*? Instead, administrators need to be champions for fully implementing a Career Cluster and Pathway framework for the benefit of students, education professionals, the community, business/industry and the local or regional economy. Administration also needs to appoint and support leaders to Career Cluster and Pathway teams who will serve as the movers-and-shakers within the school/district and model positive examples for others to follow.

Studies have been conducted about what education professionals need to take career clusters and pathways to the next level of deeper and meaningful implementation and the overwhelming response is "time to do the work" and "resources to support the work". Funding is needed to support professional development (see Professional Development) and staff members need to be allowed dedicated time blocks to meet as a Career Cluster and Pathway teams with stakeholders and partners to develop and update curriculum, connect with partners, develop, review and update articulation agreements and the list goes on. Sometimes support staff is needed to assist with research; data collection and reporting; written documentation; web site development and other Career Cluster and Pathway framework related activities. The other sections of this guidebook provide a more detailed overview of the work that needs to be done by education professionals. They cannot succeed without administrative support.

Schools, districts and post secondary institutions do not have all the resources they need to implement Career Cluster and Pathway framework well. Tough decisions will need to be made each year as to what resources exist, how existing resources can be redirected to this purpose; and how partners and stakeholders may be able to leverage additional resources for the task.

Existing funding opportunities at the state level to support career pathways include Perkins reserve grant funding, General Purpose Revenue funding, and High School Transitions funding.

Establish formal procedures for the needs assessment, design, implementation, and continuous improvement of Career Pathways

Education professionals from both secondary and post-secondary should work as a team with other education, business and industry, legislative, workforce and economic development partners to conduct needs assessments relating to workforce and labor market information (see the partnership component). Using the information the team should determine which Career Pathway(s) needs to be developed in the school/district. It is beneficial if the school/district has a uniform process for accomplishing this task so that as new Career Cluster and Pathway teams form, processes and procedures are in place to guide their work. Once a Career Pathway has been designed, a lot of ground work needs to happen over the next couple of years to update curriculum, create and revise articulation agreements, establish and maintain partnerships, evaluate student and stakeholder experiences and further lay the foundation for successful Career Cluster and Pathway framework implementation and continuous improvement. In Wisconsin formal Develop a Curriculum (DACUMS) facilitated events conducted by the Worldwide Instructional Design System team or other skilled facilitators are excellent ways to obtain information from business and industry. Once again, having formal practices documented in the school/district will help guide other Career Cluster and Pathway teams to be efficient and effective in their efforts.

Ensure opportunities and support for any student to participate and succeed in a Career Pathway.

Not only should administrators be concerned with support for education professionals and stakeholders involved in Career Cluster and Pathway teams, they need to make certain that every student in the school/district has an equal opportunity to participate and be successful in completing a program of study. First, Career Cluster and Pathway framework options must be widely distributed through school and district publications and communications such as the course catalog, student handbook, school/district web site, etc. Resources are needed so all students can use a web based career guidance system such as WISCareers or Career Cruising, e-portfolios and other career development software/materials in their classes.

Some districts in Wisconsin require that students declare a Program of Study in the 8th grade. Others incorporate **ILP**s into their district graduation requirements. By demonstrating your support for effective teaching and learning strategies, encouraging development of and student participation in work-based learning and credit transfer opportunities, administrators will be creating options for every student to be successful in a Career Pathway. Refer to the School Counseling and Advising component and the Wisconsin Comprehensive School Counseling Model for additional information.

Here's an example of an ILP

Individual Learning Plan
2008-2009

Academic Career Personal/Social

Student _____ Grade _____

	Goals	Action Plan	Review
Academic			
	Education		
	Plan of Study[college]		
Career			
	Experiential		
	Plan of Study[career]		
Personal/Social			

Ensure opportunities for secondary students to develop and refine an Individual Learning Plan (ILP).

Most Wisconsin schools/districts utilize the comprehensive school counseling model. ILPs are a tool to meet the benchmarks within the Model Academic Standards for School Counseling. Students should begin developing an ILP in the 8th grade as they are planning courses for their 9th grade year. An ILP identifies what needs to be achieved and looks towards the future, incorporating activities in school and outside the school walls. Administrators can hold teachers and school counselors accountable for career and academic advisement (see School Counseling and Academic Advisement and Course Sequences). It is critical for students to use an Individual Learning Plan (ILP) for their career and academic planning, share that plan with parents, educators and others, and update it on a regular basis. Then, students should continue their ILP as they transition from secondary to post-secondary education options.

Provide resources for long term sustainability of Career Cluster and Pathway frameworks.

Understand that full implementation of Career Cluster and Pathway framework may take several years to launch and then will need to be reviewed and improved on a long term basis. Just as school districts have policies and procedures for curriculum review and renewal, the Career Cluster and Pathway framework will also need a schedule of renewal.

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Stop and self evaluate this component

Policies and Procedures	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Review and revise existing school/ district and post-secondary institutional policies and examine procedures to determine the impact on Career Cluster/Pathway implementation.				
Determine and ensure education professionals, students, and community stakeholders are aware of policies and procedures supporting Career Cluster/Pathway implementation.				
Provide for sufficient funding and other resources for Career Cluster/ Pathway implementation.				
Establish formal procedures for the needs assessment, design, implementation, and continuous improvement of Career Pathways				
Ensure opportunities and support for any student to participate and succeed in a Career Pathway.				
Provide resources for long term sustainability of Career Cluster and Pathway frameworks.				

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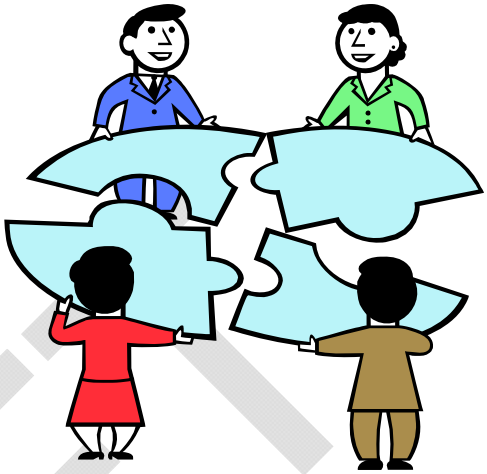
Putting it All Together



Understanding the ten components is one step in implementing a Career Cluster and Career Pathway Framework. However, many education professionals may ask, "What's next?" or "How do I do it?"

A good exercise to start is a self study or survey in where school/district/regions are in terms of incorporating the ten components. A good tool is the self assessments at the end of each component in the previous section. This guide will assist education professionals.

Career Cluster and Pathway Implementation may start in a variety of settings-perhaps at a high school, a CESA, a technical college or an industry based organizations. In this guide, the create a program of study regardless of where the Career Pathway idea begins.

In Wisconsin, Career Pathways are being implemented at a variety of levels and reflect varying levels of sophistication. As a general guide, steps to implementation with specific detail as to what to do and who does what as well as incorporating the ten components are as follows.

Using the ten components, and input from around the state and nation, there are five basic areas of work in implementing a program of study.

1. Lay the groundwork
2. Assemble a the Team
3. Design and Build
4. Implement
5. Evaluate

The next section will integrate these basic steps with the ten components. Education professionals will note many components are used in multiple steps. Additionally at the end of each step there is a check list organized around the pathways maturity of actions to consider when implementing a program of study. These checklists are at three levels of maturity, development, implementation and refinement.

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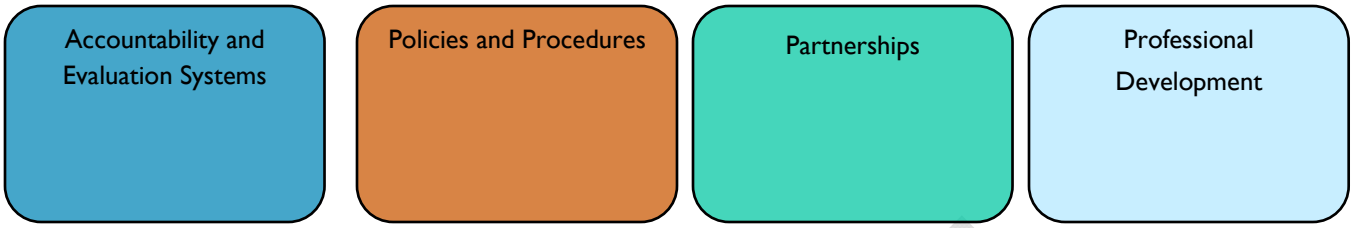
Lay the Groundwork



Education professionals interested in Career Cluster and Pathway Implementation requires some groundwork for this work to start. Think of it as preparing for the foundation to be set to build a home. Who does this work will vary by school/district/post secondary institution and may include a variety of individuals from administration to teachers and everyone in-between.

Utilizing the specific components the groundwork includes ensuring the work within specific components are in place or have begun. Specific components include the Policy and Procedures and Partnerships components. Additionally, it is not too early to begin planning for the Professional Development of education professionals within organizations or the Accountability and Evaluation Systems. Refer back to these components for specific information.

What Does Success Look Like for Laying the Groundwork?

Developmental Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Administrators are familiar with and support the Career Cluster and Pathway initiative				
Internal and external evaluations of CTE programs are conducted and documented.				
An evaluation process is in place for the review of the department program offerings and curriculum.				
Needs assessments are conducted to determine training needs of local and/or regional Career Pathways team members.				
Implementation Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
A 3-5 year implementation plan has been developed and contains goals, timelines, and tasks to be performed related to the ten components of the Career Pathway.				
A 3-5 year plan is used to guide decisions regarding course offerings				

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and Career Pathway development, implementation and refinement				
Partners in Education (PIE) meetings are attended and agendas, minutes and participant names are retained.				
Regional council meetings for School-to-Work and/or Education for Employment are attended and agendas, minutes and participant names are retained.				
Education professionals participate in networking meetings and seminars to stay up-to-date in the Career Pathway field.				
Local or regional professional development is designed to improve the Career Pathways and/or related classes.				
Refinement Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Budget items are relevant to Career Pathways and state of development of Career Pathways.				

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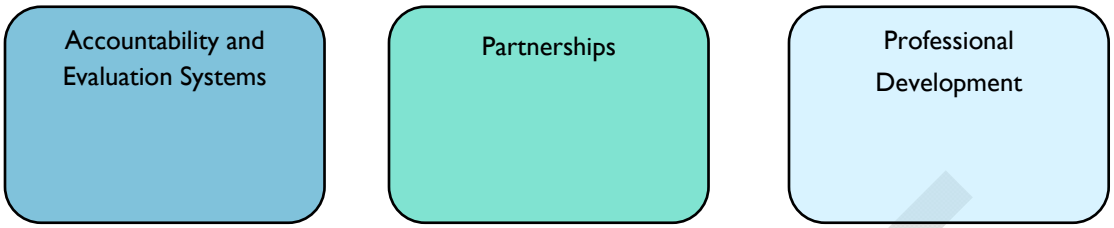
Assemble a Team



Convene a Career Pathway team including core and CTE teachers, counselors and administrators. This team will first examine the policy and procedure component as a framework to begin working, adjusting if needed. The team then will determine what pathway to develop first. This team will examine local labor market data and determine the highest employment needs in the local community and region. The Career Pathway Team will partner with their post secondary partners to assist in the selection of the pathway. Ask local employers what skills they are looking for in future employees. What are the jobs that are high skill, high demand, or high wage?

At the secondary level, education professionals should approach their local technical college (start with their Tech Prep Coordinator-please refer to www.wicareerpathways.org for a listing of the tech prep coordinators) to find out what articulation agreements are already in place. Ask for data that tells you how many students from the high school are going on to that college, how many are prepared for college level work, what programs they are completing, and how many transfer on to a 4 year college. Another alternative is for the post secondary education professionals to approach their secondary partners.

This team will also continue the work from laying the groundwork to plan for professional development and designing the accountability and evaluation system.

What Does Success Look Like for Assembling a Team?

Developmental Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
A team approach consisting of school counselor(s), core academic teachers, CTE teachers, a curriculum coordinator, business and industry representatives, post-secondary partners, and legislators is utilized if work is to be done on the Career Pathway.				
Career Pathway team members and other stakeholders become knowledgeable about career clusters, pathways and the POS.				

Post secondary partners are identified by their school/department and it is determined how they interact with your POS.				
Implementation Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Stakeholder/Advisory meetings with community members, business/industry and post secondary contacts are used to develop relevant curriculum related to the POS.				
Connections are made with technical college program advisory committees to encourage the integration of community resources beyond school walls				
Stakeholder roles and responsibilities are outlined.				
Professional development related to the Career Pathways is attended by a variety of Career Pathways team members				
Professional development events are identified				
Refinement Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
There is evidence of regular, productive stakeholder meetings.				
Labor market information is being collected and analyzed on a regular basis to help the team identify POS.				
Programs of study choices correspond with analyzed labor market data.				
Labor market information and stakeholder groups are used to expand, refine, and update the Career Pathway in order to maintain industry standards.				

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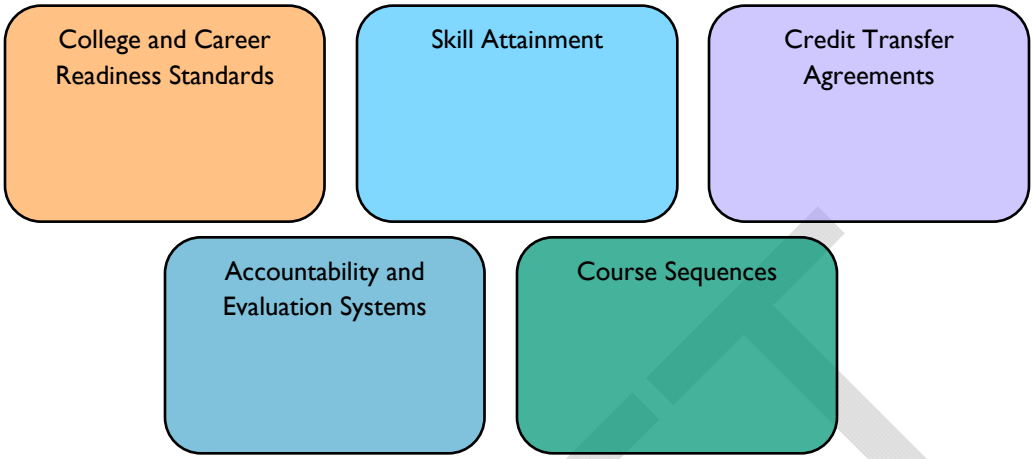
Design and Build



Designing and Building a Career Pathway goes way beyond filling in a chart with existing coursework. This is a platform for designing ideal Career Pathways pieces, accessing what is currently offered against what should be offered, to truly prepare students for a successful career. The Career Pathway team will first analyze the knowledge and skill statements of each pathway to assess which level of education the knowledge and skill are acquired. These statements can be found on www.careerclusters.org Additional information can be obtained through specific occupational DACUMS conducted at the post secondary level or some occupations have very specified industry standards. An example of the knowledge and skill cluster statements is below from the careerclusters.org website. There are cluster level and pathway level knowledge and skills. These statements should also be vetted with local industry groups.

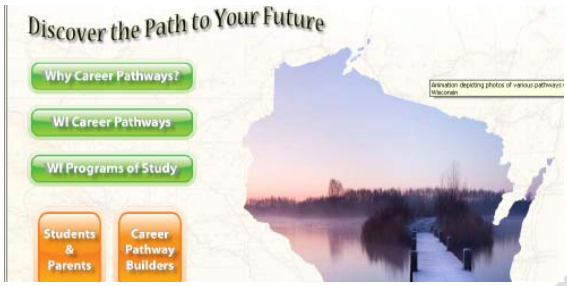
Health Science Career Cluster
Cluster Knowledge and Skill Statements

The following Cluster (Foundation) Knowledge and Skill Chart provides statements that apply to all careers in the Health Science Cluster. Persons preparing for careers in the Health Science Cluster should be able to demonstrate these skills in addition to those found on the Essential Knowledge and Skills Chart. The Pathway Knowledge and Skill Charts are available in separate documents.

Cluster Topic HLC01	**ACADEMIC FOUNDATIONS:** *Achieve additional academic knowledge and skills required to pursue the full range of career and postsecondary education opportunities within a career cluster.*
HLC01.01	**Health care workers will know the academic subject matter required for proficiency within their area. They will use this knowledge as needed in their role. In addition to state high school graduation requirements, the following are included:**
HLC01.01.01	Use a knowledge of human structure and function to conduct health care

A place for the team to actually build the model is the Wisconsin Career Pathway website. This also provides a great resource for Career Pathway teams to look at other

similar Career Pathways developed around the state to share and collaborate information. The website space for this is the "Career Pathway Builders" section. Education professionals will need a login, obtainable through the Tech Prep coordinator.



The team will then work to lay out the knowledge and skills to begin to horizontally align the curriculum. This horizontal alignment will include determining where each specific knowledge and skill will be incorporated. Then the team will align the specific knowledge and skills with existing courses or even develop and design new courses and begin sequencing the courses.

Simultaneously the post secondary education professionals will work with the secondary individuals along with business and industry to determine which standards students are required for entry into a specific occupational or college program as well as entry into work. The Career Pathway team will incorporate the standards into the Career Pathway.

In the Career Pathway design the team will also look for opportunities for credit transfer agreements to provide seamless student transition. These agreements, will be developed where appropriate.

The Career Pathway team will also incorporate skill attainments throughout the Career Pathway, with input from the partnerships.

Lastly, the Career Pathway team will refer and design the accountability and evaluation piece to collect data for evaluating the pathway.

What Does Success Look Like at this Step?

Developmental Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Knowledge and Skill Statements have been analyzed and mapped to existing or future courses				
Curriculum are aligned to post secondary objectives				
Required academic, technical, and employability skills are mapped throughout the POS curriculum. In				

other words, the POS team identifies where the required skills are currently being taught and where they should be taught				
Implementation Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Courses represent a coherent and rigorous POS.				
Both secondary and post-secondary courses are included.				
The district process for curriculum development is being followed.				
Curriculum is written with objectives, state standards, assessments, learning strategies, and resources.				
21st Century Skills are used to promote innovative teaching and learning methods that integrate the use of technology, inquiry, challenge, and problem-based approaches, higher order thinking skills and competency based learning.				
Department curriculum is reviewed and approved by the school board				
Curriculums are revised to be rigorous and relevant to industry standards based on employer feedback.				
Evidence of post-secondary transcripted credit or advanced standing courses are available.				
Courses represent a sequence of instruction that leads to a degree, certificate, or credential.				
The Program of Study is built and located online at the Wisconsin Career Pathways website				
Refinement Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
The Wisconsin counseling standards for career development are reviewed and aligned to the curriculum related to the POS.				
Students have opportunity for input into the development of the curriculum.				

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WKCE and student assessment data is analyzed and used to make curriculum improvements.				
Articulation agreements have been developed and updated on an annual basis.				
The POS team works with industry to identify the value added assessments required for occupations.				
Work-based learning opportunities are available to ALL students who have an interest in the POS.				
Employability Skills Certificates and other skill certificates (DPI or industry-based) are promoted with students and certificates of completion are retained as evidence of participation.				

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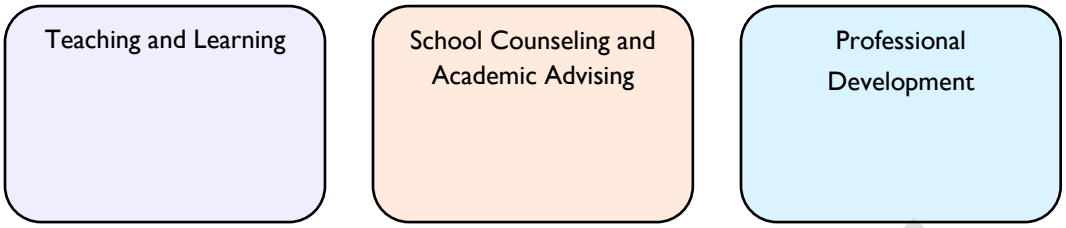
Implement



Once a Career Pathway is designed by the team, the next step is implementation involving engaging students in Career Pathways. At this point the important components to keep in mind are the School Counseling and Academic Advising Model, Teaching and Learning and Professional development.

What Does Success Look Like at this Step?

Developmental Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Classroom assessments match the state academic standards.				
Classroom assessments are comprehensive, that is, they cover everything they are supposed to cover.				
Implementation Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
School counselors are familiar with and support your Career Pathways, curriculum objectives and activities and actively contributed to the work of the Career Pathway team.				
Secondary School Counselors have attended the WCSCM Level I, II, and/or III Trainings.				
School counselors have in-serviced other teachers and staff about the purpose of the ILP.				
Teachers integrate the development of the student's ILP into career				

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Pathway classes.				
Students are engaged in the learning process and show evidence of growth throughout their Career Pathway progress and at completion				
Students and parents are informed about labor market information.				
Students are exposed to a variety of field trips and guest presenters related to Career Pathway careers.				
Students are developing post-secondary plans using the career clusters and Programs of Study.				
A comprehensive model of K-12 career development is developed by the district and shared with staff.				
Refinement Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Students participate in career fairs, career days and other events hosted by universities and technical colleges.				
Skill and aptitude inventories and assessments are available to students (i.e. COMPASS).				
Teachers help students expand their interests and awareness to careers in their field or related Career Pathway and encourage students to add them to the ILP.				
Students can identify the career cluster or pathway they are interested in pursuing.				
Students utilize the Career Pathway documents to develop their ILP beginning in 8th grade.				
Students use the ILP to guide course selection decisions every academic year.				
Students can demonstrate knowledge of career clusters, career interest inventories and Career Pathways.				
Student pre-/post-tests are conducted on course rigor and relevance.				

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Student employability skills are assessed at various levels so improvement in skills can be documented.				
Students are being assessed by external experts as well as their teachers.				
Students participate in an 8th grade career class and successful completion is documented.				
Students use WISCareers or Career Cruising or similar service, e-portfolios, and/or other career development software/materials in classroom lessons and advisement sessions.				
Students are aware of and use career clusters/pathways when selecting classes.				
Students participate in work experiences, youth apprenticeship, job shadow and volunteer experiences in Career Pathway classes and participation is documented.				
Students participate in individual meetings with the school counselor and/or parent-student academic and career conferences.				
Students have opportunities to participate in "Career Pathways Days", "Career Fairs", "Career Expos", WI Education Fair, Reality Fair/Store, Mini-Business World and student participation is documented.				
Parents/students are participating in conferences at grades 8-12 to assist in planning for course selection, four-year planning, review academic performance and to identify the student's career goals.				
Students and parents are provided with career development resources and strategies in conferences.				

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Students come to conferences prepared with information to share with their parents related to their academic and career interests.				
Each student has a Career Pathway chart on file for based upon the ILP and students continue their ILP as they transition from secondary to post-secondary education options.				
The Wisconsin Counseling standards for career development are aligned into the Career Pathway curriculum(s).				
Counselors have written curriculum that is aligned to the counseling standards for career development.				
The school counselor is a component of the Career Pathway classes.				
Community based projects and/or volunteer service is integrated into class projects.				
Guest speakers are invited to present to students on work readiness skills and/or specific occupations.				
Students are prepared for post-secondary education without academic remediation.				
Students enter into the workforce with skills required of employers.				
Students are eligible to and earn Employability Skills Certificates and other skill certificates (DPI or industry-based).				

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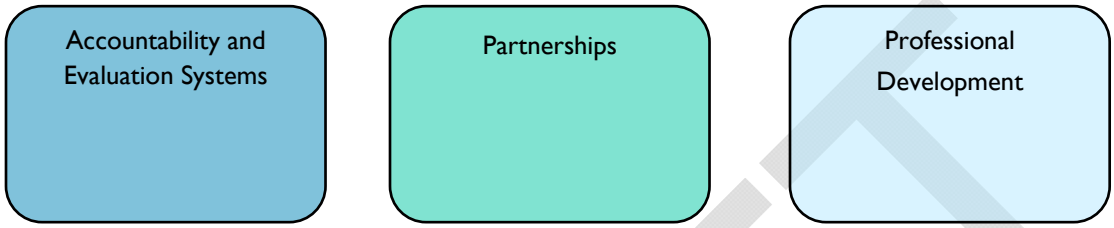
Evaluate

The last step in implementation is the plan for continued evaluation. At this point the team has incorporated the accountability and evaluation component into the design of the pathway. The team will also begin evaluating the impact of the Career Pathway on the designed accountability system. The team also will plan for an evaluation system for continuous improvement.



What Does Success Look Like at this Step?

Developmental Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Student data is used to establish short-and long-term local school, district, department, and individual performance goals and priorities.				
Accountability metrics to evaluate the Career Pathway are identified with a plan to measure and report the metrics				
Implementation Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Data on participants in dual credit and youth options programs is collected and analyzed.				
Data on utilization of secondary and/or post-secondary articulation agreements is collected and reported.				
Follow-up data is collected on Career Pathway completers and high school graduates (i.e. post-secondary education institution application(s), post-secondary education major declared, post-secondary institution enrollment, etc.)				
The accountability/assessment plan addresses the core indicators of Perkins IV legislation.				

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Career Pathways team members are engaged in continuous professional development based on data-driven improvement needs.				
Professional development has improved your program in one or more of the following ways: new instructional methods/strategies, differentiated instruction, introduced a new course, implemented a new course, major revamping of units, and/or new assessments/rubrics added to units, etc.				
Student support and resources are increased based on student achievement and involvement in Career Pathways				
Refinement Level	Not being Considered	In the Planning Stage	Partially Implemented	Fully Implemented
Professional development participation has improved my program in one or more of the following ways: new instructional methods/strategies have been incorporated, differentiated instruction has been incorporated or improved, a new course has been created, a new course.				
The Career Pathway team is actually reviewing and updating the Career Pathway on a regular basis.				
The school, district, and Career Pathways team keeps track of enrollment and course grades, course passage rates, and WCKE, Explore, Plan, ACT/SAT scores, etc. over time.				
The school, district, and Career Pathways team keeps track of graduation rates and high school exam passage rates over time. (It's not enough to look only at the number of students taking tests. If the vast majority of students taking the tests fail them, then there's a problem.)				

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Enrollment, course grades, course pass rates, exam pass rates, graduation rates, etc. are reported and analyzed by student demographic categories (AP students, SES groups, gender, ethnicity, Career Pathways completers, CTE concentrators, etc.)				
Data on eligibility to sit for state and/or national certification exams is collected and analyzed.				
Data on pass rates for state and/or national certification exams is collected and analyzed (if possible).				
Data on participants of co-curricular and experiential learning opportunities (i.e. School-to-Work participants, students completing an internship or co-op experience, CTSOs, etc.) is collected and analyzed.				
Student achievement and Career Pathway benefit data is reported to, published, and analyzed by the Career Pathway team, advisory committees, and other stakeholders such as parents and administrators.				
There is evidence of regular, productive Career Pathways team, advisory committee and stakeholder meetings to discuss performance data.				
Feedback on data is solicited from stakeholder groups and documented.				
Career Pathways, programs, and curriculum are updated and revised based on data-driven recommendations and decisions from various stakeholder groups.				
Revisions are made to the POS documents as courses are added or deleted from the middle school/high school offerings.				
Action steps are identified to address the goals and priorities and progress				

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toward completion of the action steps is monitored by the accountability/evaluation team as well as the Career Pathways team.				
Expenditures in your department related to the Career Pathways can demonstrate improvement in the program.				
Competencies for student learning are established and/or revised and are used to determine if outcomes for achievement have been met.				
Career goals of students and ILPs are updated and checked regularly.				
Student achievement has increased based on the data from one or more of the following: number of articulation agreements, number of transcript agreements, student participation in CTSOs, participation in leadership activities, skills certificates completed and participation in work-based learning options.				
A team approach consisting of school counselor(s), core academic teachers, CTE teachers, a curriculum coordinator, business and industry representatives, post-secondary partners, and legislators actively manages and updates the POS.				
The Career Pathway team is actually reviewing and updating the Career Pathway on a regular basis.				
Students are taking advantage of options for transcripted credit, advanced standing, work-based learning, AP coursework, skill certificate completion, etc.				
Students are completing a Career Pathway				

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Appendix

Key Terms

- **Active learning** – "anything that students do in a classroom other than merely passively listening to an instructor's lecture." *(Paulson & Faust,* http://www.calstatela.edu/dept/chem/chem2/Active/index.htm*)*
- **Accuplacer** – admissions/entrance exam used for various higher education institutions (typically technical and community colleges). Accuplacer is an adaptive exam which means the questions are chosen for the student based on answers provided in previous questions. The other two commonly used admissions/placement exams in Wisconsin Technical Colleges are the COMPASS and the TABE
- **Advanced placement (AP)** – Wisconsin Post Secondary Institutions participate in the College Board Advanced Placement (AP) Program and typically award course exemptions and college credit to entering students with qualifying scores on individual exams in various general education and humanities content areas.
- **Advanced standing** – A high school student who has successfully completed a course taught by a high school teacher using a high school curriculum wherein the high school and a technical college have aligned curriculum competencies and developed an articulation course agreement. The credit is awarded upon enrollment in a technical college; however, grades are not recorded on a technical college transcript.
- **Apprenticeship** – Apprenticeship programs assist registered indentured apprentices to acquire the related technical knowledge and skills to augment the on the job experiences for all aspects of their trade. Both the employer and the apprentice must be contracted with the Bureau of Apprenticeship Standards to begin apprenticeship.
- **Articulation agreement** – An articulation agreement is a formal agreement between institutions that allows credit for a course or sequence of courses taken at one institution to be applied in specific programs at another institution. These agreements may be between a high school and a post-secondary institution, or among post-secondary institutions.
- **Associate in Applied Science Degree** (AAS) An AAS. Degree helps individuals prepare for, or advance in a particular occupation or field. Most AAS degrees require 60-70 credits and consist of technical studies, general studies and electives. Time to completion varies widely. Some or all credits may be applied toward a bachelors degree program at a four-year college. In Wisconsin the technical colleges award AAS degrees.
- **Associate in Arts or Associate in Science Degree.** An Associate in Arts or an Associate of Science is a degree awarded by technical colleges in Wisconsin intended to transfer to a four year college or university.
- **Associate of Arts and Science Degree** An Associate of Arts and Sciences Degree is awarded to an individual for completion of a program that is intended for transfer to a four-year college or .university. The degree requirements usually include courses in fine arts, humanities, mathematical and natural sciences and social sciences.
- **Bachelor's degree** – A bachelors degree is an academic degree awarded to individuals for completions of an undergraduate course or major that generally last for four years.
- **Bridge certificate –** a term used in the WTCS wherein a degree program begins with a certificate. Completion of the certificate allows the student to continue on in the degree program and/or use the skills developed in the certificate to take a first step into employment in their career field.
- **Business and education partnership** – This partnership is a collaborative relationship that is mutually beneficial for students, staff, industry experts, and/or community members to increase student readiness, employability skills, and acquisition of academic and technical skills.
- **Career** – A chosen profession, field of work or calling.

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- **Career Clusters** - In their simplest form, Career Clusters are groupings of occupations/career specialties used as an organizing tool for curriculum design and instruction. Occupations/career specialties are grouped into the Career Clusters based on the fact that they require a set of common knowledge and skills for career success. The Knowledge and Skills represented by Career Clusters prepare learners for a full range of occupations/career specialties, focusing on the holistic, polished blend of technical, academic, and employability knowledge and skills. This approach enhances the more traditional approach to career and technical education in which instruction may focus on one or two occupations and emphasize only specific occupational skills.
- **Career Pathways** Career Pathways are sub-groupings of occupations/career specialties used as an organizing tool for curriculum design and instruction. Occupations/career specialties are grouped into Pathways based on the fact that they require a set of common knowledge and skills for career success.
- **Career Pathway Bridge** a term used in the WTCS. A Career Pathway Bridge helps adults in need of basic skills or English Language Learning succeed in a Career Pathway. Bridges consist of courses that link basic skills development with occupational skills development and accelerate the transition from pre-college to college level work.
- **Career and Technical Education (CTE)** – Instructional programs designed to achieve pupil mastery of skills and knowledge. Current programs are transitioning to align with Career Clusters. A CTE is an instructional program that includes a rigorous sequence of quality academic content and technical skills, with a focus on specific career clusters and pathways. Programs prepare students to successfully transition to post-secondary education or work.
- **Career and Technical Student Organization (CTSO)** – Co-curricular career-based student organizations recognized by the U.S. Department of Education that are related to a specific Career and Technical Education field.
- **Career awareness** – Activities that incorporate workplace operations to illustrate why people work, the kinds of conditions under which work is performed, the various levels of training and education needed to work, appropriate work behaviors, and how expectations at school are related to expectations in the world of work.
- **Career exploration** – Activities covering the entire career spectrum using clusters of similar or related careers as a framework to study all occupational groups while simultaneously evaluating personal interests and skills in relation to the jobs studied.
- **Career planning and preparation** – Activities which are focused on personal career interest areas and experiencing the work in these areas.
- **Career (occupational) Specialties**- These are particular careers or occupations based on advanced knowledge and skills specific to a career or occupation.
- **Certificate** – An occupational credential typically awarded by a technical or community college or other educational provider after completion of a short-term program in a career specialty area.
- **Cooperative education** – A structured program combining of academic and Career and Technical Education with work experience.
- **Curriculum / Program** – A set of courses, including prescribed content that is offered at a particular school; may be used to describe general requirements or a specific course; usually considered in broader terms than program of study.
- **DACUM** – DACUM is an acronym for developing a curriculum based on an occupational analysis which provides a framework for instructional development. In a DACUM process, a facilitator elicits collective insight about the occupation involving job duties and tasks associated with the successful achievement of the occupation from individuals who perform the duties of the occupation. By the end of the day, major competencies are identified and organized into natural groupings that form the basis for curriculum.
- **Doctoral Degree** A doctoral degree is an academic or professional degree that qualifies the holder to teach or practice in a specific field such as philosophy, literature, law or medicine.

Examples are Doctor of Philosophy (Ph.D.), Doctor of Medicine (M.D) and Doctor of Education (Ed.D.). Doctoral applicants were previously required to have a master's degree, but many programs will now accept students immediately following completion of their undergraduate studies.

- **Duel Credit**– See transcripted credit
- **Education for Employment** – a federal law designed to allow all youth opportunities to connect what is learn in school, understand and plan for future careers, master human relations skills needed for effective communication and work, understand the fundamentals of work and our economy, apply and manage technology, and access contemporary technical training and school-supervised work experience.
- **Employability skills and work behaviors** – The skills needed by pupils to obtain and retain employment, and which are applicable and transferable to general employment situations. Skills such as organization, responsibility, dependability, honesty, teamwork, and integrity, which can all be translated into the work environment.
- **Horizontal Curriculum Alignment** Horizontal alignment is the alignment of the curriculum being taught by teachers in a common grade level**.**
- **Individualized Education Plan (IEP)** – written plan and legal document that states a child's present level of functioning; specific areas that need special services; annual goals; short-term objectives; services to be provided; and the method of evaluation to be implemented for children 3 to 21 years of age who have been determined eligible for special education
- **Individual Learning Plan (ILP)** – An ILP includes a program of study and learning that represents a mapped academic plan reflecting a student's unique set of interests, needs, learning goals, and graduation requirements. It goes beyond the "four-year plan" by recording the student's connections to the larger community including examples of community service and volunteerism; membership in community organizations like 4-H or church youth groups; participation in leadership activities outside of school; involvement in job shadowing, mentorships, and/or apprenticeships; and the pursuit of skill development through hobbies, athletics, and fine arts.
- **Internship** – Structured on-the-job training that provides experiences for students in order to help them determine interest in a career and meet contacts in the field. Salary or school credit sometimes provided.
- **Job shadowing** – A temporary, unpaid work experience where students learn about a job by spending a workday with an experienced worker.
- **Knowledge and Skills** - Knowledge and Skills are industry-validated statements that describe what learners/employees need to know, and to be able to do, for career success within a Cluster and/or Pathway.
- **Liberal Arts and Sciences** Majors in the Liberal Arts and Sciences provide pathways to a wide array of 21st century careers through preparation in such areas as knowledge of human cultures and the natural world, critical and creative thinking skills; effective communication skills; intercultural knowledge and competence and individual, social and environmental responsibility.
- **Master's Degree** A master's degree is an academic degree that is awarded to individuals who have undergone study demonstrating a mastery of a specific field of study or area of professional practice. Generally students must have previously earned an undergraduate (bachelor's) degree
- **Occupational Specialties**-see career specialties
- **Post-secondary** – Education following high school, in Wisconsin post secondary options include technical college, private and public 2 and 4 year colleges and universities and apprenticeship programs.
- **Post-secondary credit** – Credit awarded by a technical college, or a 2–year or 4–year college or university.

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- **Private school** – An educational institution that is funded through tuition, fundraising, private grants, and donations without the support of public tax dollars
- **Program of study (POS) Curriculum Framework** A program of study is a sequence of instruction (based on recommended standards and knowledge and skills) consisting of coursework, co-curricular activities, work-site learning, service learning, and other learning experiences at the local school district level. **Public school** – An educational institution that is funded primarily by tax dollars.
- **Remediation** – at the post-secondary level, the coursework that entering students need to take before they demonstrate readiness for college-level study. Nationally, 40% of incoming college students need some remedial work. Effective POS development can help Wisconsin students avoid remediation and continue progress in their chosen career field.
- **School-to-Work** – initiative designed to improve school-to-work transitions for all students.
- **Student-centered** – A teaching philosophy whereby students learn best by interpreting information and/or concepts, learning through discovery while also setting the pace of their own learning. Teacher responsibilities when using student-centered approaches are to coach and mentor students to facilitate their learning and design experiences that allow students to develop and apply new knowledge and skills.
- **Tech Prep** This school-to-work transition program helps students make the connection between high school, post-secondary education and employment. As a statewide career development system, Tech Prep provides students with a planned program of study that incorporates academic and career-related articulated courses between secondary and post-secondary education.
- **Technical Diploma-**Technical diplomas help individuals prepare for a targeted occupation, typically at he entry level. Credit requirements range from 3 to 70 credits and a time to completions varies widely. Some credits may bridge into associate degree programs.
- **Transcripted (dual) credit**– Post-secondary credit earned by a high school student for successfully completing a college level course. The student may request a transcript from the technical college, 2– or 4–year College, or university.
- **University** – A post-secondary educational institution, often consisting of several colleges, that offers bachelors, masters, and doctoral degrees and research opportunities in various branches of learning.
- **Vocational education** – See Career and Technical Education (CTE).
- **WISCareers** One of the web based interactive career exploration and planning utilized by secondary and post secondary institutions for students in Wisconsin, developed and located at the University Of Wisconsin School Of Education. Another similar interactive website used for this purpose by some institutions in Wisconsin is Career Cruising.
- **Wisconsin Youth Apprenticeship** (YA)– This rigorous one or two year program is designed for high school juniors and seniors. It combines academic and technical instruction with paid on the job training at a mentored worksite. Wisconsin technical colleges award credit to two year youth apprenticeship program graduates.
- **Wisconsin Youth Options** – This program allows public high school juniors and seniors who meet certain requirements to take post-secondary courses at a UW institution, a Wisconsin technical college, one of the state's participating private nonprofit institutions of higher education, or tribally-controlled colleges. Approved courses count toward high school graduation and college credit.
- **Work-based learning (WBL)** – A set of planned educational experiences, either paid or unpaid, coordinated and supervised by licensed school personnel, and designed to enable learners to acquire work behaviors, skills and knowledge for work and other life roles by participating in actual or simulated work settings. This includes job shadowing, cooperative education, internships, and apprenticeships.

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Resources

- America's Career InfoNet (http://www.acinet.org/acinet)
- America's Career Resource Network (ACRN) (http://cte.ed.gov/acrn/)
- America's Job Bank (http://www.jobbankinfo.org/)
- Association for Career and Technical Education (ACTE) (http://www.acteonline.org)
- Academic Achievement Data (http://dpi.wi.gov/sig/dm-acadachmt.html)
- Attendance and Behavior Data (http://dpi.wi.gov/sig/dm-attendbehav.html)
- Career Cruising (http://www.careercruising.com/)
- Career and Technical Education Consortium of States (http://www.v-tecs.org/)
- Career Guide to Industries at (http://www.bls.gov/oco/cg/cgs034.htm)
- Career Voyages (http://www.careervoyages.gov/)
- Center on Wisconsin Strategy (www.cows.org)
- Data Collection System DPI (http://www.dpi.wi.gov/cte/veershome.html)
- Data Collection System WTCS (http://www.wtcsystem.edu/reports/data/index.htm)
- Demographic Data DPI (http://dpi.wi.gov/sig/dm-demographics.html)
- Developing a Curriculum (DACUM) (http://www.dacum.org/ and http://www.trc.eku.edu)
- Education for Employment (http://dpi.wi.gov/cte/e4ehistory.html)
- High Schools That Work (HSTW) (http://www.sreb.org/programs/hstw/hstwindex.asp)
- Know How 2 Go Wisconsin http://www.knowhow2gowisconsin.org/
- Majors at Wisconsin Private Colleges (http://waicu.org/upload/2010Guide/WebContent/MajorAreasofStudy.pdf)
- Majors & Careers in the University of Wisconsin System (http://uwhelp.wisconsin.edu/majors.asp?__utma=1.2026293947.1277264663.1277264663.1277264663.1&__utmb=1.3.10.1277264663&__utmc=1&__utmx=-&__utmz=1.1277264663.1.1.utmcsr=search.mywebsearch.com|utmccn=(referral)|utmcmd=referral|utmcct=/mywebsearch/GGmain.jhtml&__utmv=-&__utmk=188219816)
- Major Programs in Wisconsin Technical Colleges (http://www.witechcolleges.org/Explore_Careers/Career_Programs.htm)
- Making Sense of Data-Driven Decision Making in Education (http://www.rand.org/pubs/occasional_papers/2006/RAND_OP170.pdf)
- Model Academic Standards for School Counseling Programs (http://dpi.wi.gov/sspw/scstudentstandards.html)
- National Association of State Directors of Career and Technical Education Consortium (http://www.careertech.org)
- National Career Pathways Network (http://www.cord.org/ncpn-index.cfm/)
- National Center for Education Statistics (NCES) (http://nces.ed.gov/pubs2002/cip2000/index.asp)
- National Occupational Competency Testing Institute (NOCTI) (http://www.nocti.org)
- O*Net (Occupational Information Network) (http://online.onetcenter.org)
- Perkins IV (http://www.perkins4.org/)
- RISE (Regional Industry Skills Education) http://risepartnershp.org
- Special Education Data (http://dpi.wi.gov/sped/dm-speceddata.html)
- States Career Clusters Initiative (SCCI) (http://www.careerclusters.org/)
- Staff, Teacher and Program Data (http://dpi.wi.gov/sig/dm-stafftchr.html)
- Sustaining School Improvement University of Wisconsin System (http://www.wisconsin.edu/)
- University of Wisconsin System Transfer Information System (http://tis.uwsa.edu/index.html)
- U.S. Department of Education - Office of Vocational and Adult Education (OVAE) (http://www2.ed.gov/about/offices/list/ovae/index.html)
- U.S. Department of Labor Occupational Outlook Handbook (http://www.bls.gov/oco)

- WISCareers (http://wiscareers.wisc.edu/Default.asp)
- Wisconsin Association for Career and Technical Education (WACTE) (www.wacteonline.org)
- Wisconsin Association for Leadership in Education and Work (WALEW) (http://www.walew.org/)
- Wisconsin Career Pathway Web Site (http://www.wicareerpathways.org)
- Wisconsin Comprehensive School Counseling Programs (http://dpi.wi.gov/sspw/counsl1.html)
- Wisconsin Comprehensive School Counseling Model (WCSCM) (http://dpi.wi.gov/sspw/scguidemodel.html)
- Wisconsin Department of Workforce Development Labor Market Information (http://worknet.wisconsin.gov/worknet/default.aspx)
- Wisconsin DPI Agriculture & Natural Resources (http://dpi.wi.gov/ag/index.html)
- Wisconsin DPI Business & Information Technology (http://dpi.wi.gov/bit/index.html)
- Wisconsin DPI Family and Consumer Sciences Education (http://dpi.wi.gov/bit/index.html)
- Wisconsin DPI Health Science Education (http://dpi.wi.gov/hs/index.html)
- Wisconsin DPI Marketing, Management, and Entrepreneurship Education (http://dpi.wi.gov/mmee/index.html)
- Wisconsin DPI Technology and Engineering (http://dpi.wi.gov/te/index.html)
- Wisconsin Information Network for Successful Schools (http://dpi.wi.gov/sig/index.html)
- Wisconsin Private Colleges (http://www.wisconsinmentor.org/home.aspx)
- Wisconsin School Performance Report (http://dpi.wi.gov/spr/index.html)
- Wisconsin Technical College System (http://www.witechcolleges.org/)
- Youth Apprenticeship (http://www.witechcolleges.org/High_School_Students/Youth_Apprenticeship.htm)
- Youth Options (http://www.witechcolleges.org/High_School_Students/Youth_Options.htm

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Advanced Standing Verses Transcripted Credit Table

This table outlines the similarities and differences between the two types of articulation.

Terminology	Advanced Standing	Transcripted Credit
DEFINITIONS	Advanced Standing may also be referred to as • "credit in escrow" because the application of the credit is delayed until students enroll in a technical college program.	Transcripted Credit may also be referred to as: • "dual credit courses" as high schools also give credit. • "direct credit" because students are earning technical college credit directly from the technical college.
RELATIONSHIP BETWEEN HIGH SCHOOL AND TECHNICAL COLLEGE COURSES	High school course(s) or competencies are determined to be equivalent or comparable to a technical college course. Agreements require a minimum of a 3.0 grade point on a 4.0 scale for students to earn credit. High school grading policies and standards are followed.	Technical college curriculum is taught to high school students. A variety of delivery methods may be used. Students earn both high school credit and technical college credit simultaneously. Technical college grading policies and standards established in the agreement are followed.
TEACHER	Course is taught by a high school teacher who holds a current DPI license in the related area of instruction.	Course is taught by a WTCS certified technical college instructor or a high school instructor who holds a current DPI license in a related area and has been granted WTCS articulation certification under Wisconsin Administrative Code TCS 3.03(9) (b).
AWARDING CREDIT	The student must meet all conditions of the articulation agreement in order to be eligible for advanced standing credit. Technical college credits are awarded; however, technical college grades are not given for these courses.	Upon successful completion of course, grades are posted to an official technical college transcript and tabulated in the student's technical college GPA. Students earn technical college credit and high school credit simultaneously.

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Terminology	Advanced Standing	Transcripted Credit
DOCUMENTATION	The school district maintains the student's transcript. Under DPI, PI 26 Education for Employment; *The district must include specific information on pupil transcripts. This information includes the title of the course; the high school credits earned and whether those credits were earned through advanced standing, transcripted credit, or the advanced placement program; and the participating post-secondary institution, when appropriate.* Technical colleges may opt to give a "certificate of eligibility" that specifies the course title, course number and credits for which advanced standing may be granted upon enrollment at a technical college.	The technical college maintains the student's transcript for technical college course work. The school district maintains the student's transcript including high school and technical college course work. Under DPI, PI 26 Education for Employment; *The district must include specific information on pupil transcripts. This information includes the title of the course; the high school credits earned and whether those credits were earned through advanced standing, transcripted credit, or the advanced placement program; and the participating post-secondary institution, when appropriate.*
DATA REPORTING	School districts receiving Perkins funds are required to report current articulation in the Vocational Education Enrollment Reporting System (VEERS).	The technical college reports the course in the WTCS Client Reporting System.
AGREEMENT/COSTS	Involves a written articulation agreement. No fees are charged to the student or school district.	Involves a written contractual agreement and cost-neutral arrangement between a school district and a technical college.
TRANSFER TO ANOTHER WTCS TECHNICAL COLLEGE	According to the Credit for Prior Learning policy (Educational Services Manual 12.10.5), technical college credit awarded for high school coursework covered by an articulation agreement at the originating technical college shall be accepted as credit toward completion of a comparable course or courses by the receiving technical college.	All courses taken for technical college credit appear on a student's transcript and shall be transferrable to other technical colleges who have the same program.

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Career and Technical Student Organizations (CTSOs) in Wisconsin

Some career and technical student organizations that can help round out a student's POS experience include:

Distributive Education Clubs of America (DECA) – established over 60 years ago, this national association of more than 185,000 marketing students provides members with hands-on experiences in the field of marketing, management and entrepreneurship. (http://www.deca.org/)

Family, Career and Community Leaders of America (FCCLA) – established in 1945, this national career and technical student organization is for young men and women in Family and Consumer Sciences education in public and private school through grade 12. Its 219,000 members in nearly 6,500 chapters are part of a family, and FCCLA is the only national Career and Technical Student Organization with the family as its central focus. (http://www.fcclainc.org/)

National FFA Organization (FFA) – founded in 1928 is with a current membership of over 505,000 is dedicated to making a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education. Members are engaged in a wide range of curriculum and FFA activities, leading to over 300 career opportunities in food, fiber, and natural resources industries. (http://www.ffa.org/)

Future Business Leaders of America (FBLA) – founded in 1937, now over a quarter of a million high school and middle school students, college and university students, faculty, educators, administrators, and business professionals have chosen to be members of the premier business education association preparing students for careers in business. FBLA-PBL is the largest business career student organization in the world. (http://www.fbla-pbl.org/)

Health Occupations Students of America (HOSA) - HOSA is a student organization whose mission is to promote career opportunities in health care and to enhance the delivery of quality health care to all people. Since its inception in 1976, HOSA has grown steadily reaching nearly 107,000 members through 47 chartered state HOSA associations. (http://www.hosa.org/)

SkillsUSA - SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled work force. SkillsUSA helps each student excel. SkillsUSA serves more than 300,000 students and instructors annually and the organization has 13,000 school chapters. (http://www.skillsusa.org/)

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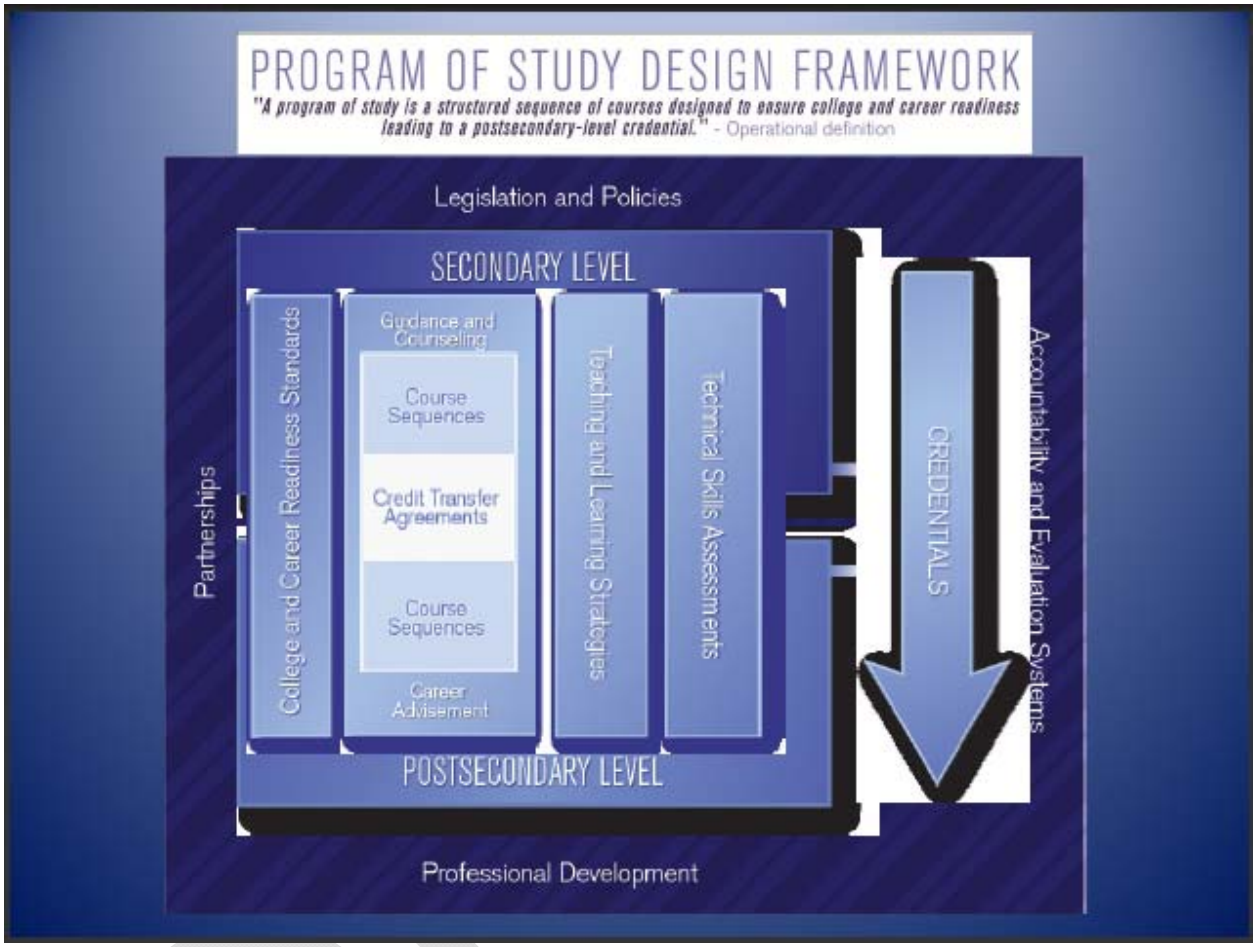
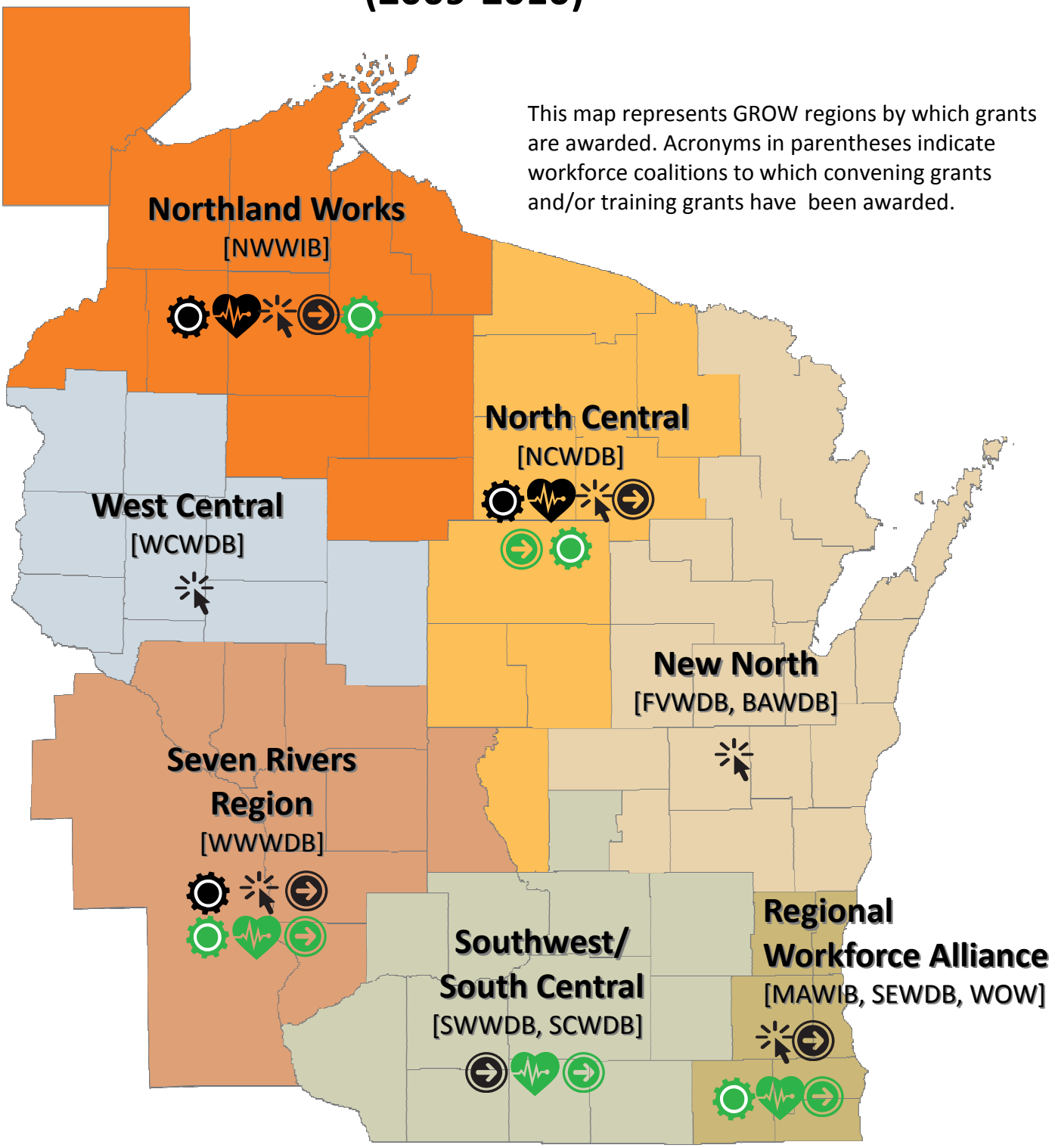
The Ten Components as adapted for Wisconsin from Office of Vocational and Adult Education (OVAE), in collaboration with major national associations, organizations, and states. Here is a graphic of the OVAE model.



Attachment D

Wisconsin Industrial Partnership Grants by Grow Regions

Industry Partnership Grants by GROW Region
(2009-2010)



This map represents GROW regions by which grants are awarded. Acronyms in parentheses indicate workforce coalitions to which convening grants and/or training grants have been awarded.

KEY **Black = convening grants :: Green = training grants**

Advanced Manufacturing | Health Care | Energy | Other

For more information about Wisconsin Industry Partnerships, contact Anne Rodgers-Rhyme at (608) 267-9519.

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Industry Partnership Grants :: Issued 2009-2010

Convening grants are typically issued for 6 months up to $25,000 each to organize employers and other industry partners; evaluate current workforce systems, employee skills sets, and regional assets and challenges; and develop an industry-specific strategic plan that incorporates both long-term and short-term training solutions.

Training grants are typically issued for one year for an industry partnership to implement training on skills that match labor market needs. Training might advance career pathways, incumbent workers, on-the-job initiatives, industry recognized credentials, and supportive services.

Regional Workforce Alliance

Milwaukee Workforce Investment Board
- SAGE Energy – convening
- Water Industry – convening
- Energy CareerLink – training
- Health Care – training

Southeast Workforce Development Board Tri-Co
- Sector Greening – convening

Waukesha-Ozaukee-Washington Counties' Workforce Development Board
- Green Manufacturing – training
- Power Controls—convening

New North

Fox Valley Workforce Development Area
- SAGE Energy – convening
- Wind Industry – convening

North Central Grow Partnership

North Central Workforce Development Board
- Green Sector Development – convening
- Health Care – convening
- Information Technology Sector – convening
- SAGE Energy – convening
- Advanced Manufacturing – convening & training
- Transportation – convening & training

Northland Works

Northwest Workforce Investment Board
- Construction & Building – convening
- Health Care – convening
- SAGE Energy – convening
- Advanced Manufacturing – convening & training
- Energy/Bio-Fuel – convening & training

West Central Regional Development

West Central Workforce Investment Board
- SAGE Energy – convening

Seven Rivers Region Workforce Development Partnership

Western Workforce Board/Workforce Connections
- Bio-Plastics/Composites – convening
- Energy Industry – convening
- SAGE Energy – convening
- Food & Ag Products – convening & training
- Health Care – training
- Lean Manufacturing – training

Southwest/Southcentral GROW

South Central Workforce Development Board
- Agri-Business – convening & training
- Health care – training

More information about Wisconsin Industry Partnerships is available online at dwd.wisconsin.gov/industry_partnerships

Attachment E

Course Sequence Plan for State Approved Manufacturing Pathway

Wausau East and West

Manufacturing: Manufacturing Production Process Development

Career Pathway Plan of Study for ► Learners ► Parents ► Counselors ► Teachers/Faculty

*This Career Pathway Plan of Study (based on the Manufacturing Production Process Development Pathway of the Manufacturing Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. *This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.*

EDUCATION LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies/ Sciences	Other Required Courses Other Electives Recommended Electives Learner Activities	*Career and Technical Courses and/or Degree Major Courses for Manufacturing Production Process Development Pathway	SAMPLE Occupations Relating to This Pathway
	Interest Inventory Administered and Plan of Study Initiated for all Learners							
SECONDARY	9	English 9	Algebra 1 or 1A	Integrated Science 9	U.S History 1	Introduction to Engineering Design Transportation, Power & Energy I	Intro to CAD, Metals Material Processes, Wood Material Processes	► Design Engineer ► Electrical and Electronic Technician and Technologist ► Electronics Engineer ► Engineering and Related Technician and Technologist ► Industrial Engineer ► Labor Relations Manager ► Manufacturing Engineer ► Manufacturing Technician ► Power Generating and Reactor Plant Operator ► Precision Inspector, Tester and Grader ► Process Improvement Technician ► Production Manager ► Purchasing Agent ► Supervisor
SECONDARY	10	American Lit/Expo Writing	Geometry or Geometry Ext.	Integrated Science 10	U.S. History 2		Manufacturing Enterprise, Introduction to Production Welding	
SECONDARY	11	Speech/Lit. Seminar	Algebra 2 or Algebra 2 Extended	Chemistry	World History		Advanced Manufacturing Processes	
SECONDARY	*College Placement Assessments-Academic/Career Advisement Provided*							
SECONDARY	12	Advanced Composition/Public Speaking	Pre - Calculus or Calculus	Physics	Economics/ Sociology		Computer Integrated Manufacturing (PLTW) Manufacturing Youth Apprenticeship	
	Articulation/Dual Credit Transcripted-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.							
POSTSECONDARY	Year 13	Freshman Composition & Freshman Reading & Writing	Calculus I & Calculus II	College Chemistry & Chemistry of Materials	General Economics & American Government		Intro to Engineering Materials	
POSTSECONDARY	Year 14	Fundamentals of Speech	Differential Equations & Linear Algebra	University Physics I & II	World Geography & Introduction to Philosophy		Polymer & Composite Processes, Engineering Mechanics, Engineering Drawing	
POSTSECONDARY	Year 15	Circuits & Devices, Engineering Economy, Jigs, Fixtures & Tooling, CAM					Mfg Process Engineering I & II, Controls & Instrumentation	
POSTSECONDARY	Year 16	Machine Vision & Robotics, Product Design, Lean Manufacturing					Fluid Mechanics, Mfg. Design Systems, Design & Simulation of Mfg. Systems	

Project funded by the U.S. Department of Education (VO51B020001)

Attachment F

Wisconsin Technical College System Instructor Requirements

Attachment

Technical College Instructor Certification Requirements

Certification of technical college instructors is one of the primary functions of the WTCS Board (s. 38.04(4), Wis. Stats.). While WTCS requirements for academic instructors focus primarily on educational attainment, with its primary focus on education and training for careers, the WTCS seeks occupational instructors who combine mastery of their occupational field with excellence in teaching. To this end, the requirements to obtain full (five-year) certification as an occupational instructor in the WTCS include at a minimum: (a) twenty-four months of verifiable occupational experience as a fully qualified worker in each occupational area where certification is requested; (b) baccalaureate degree or equivalent with education or training preparing a person for the occupational area to be taught; and (c) two years experience as a certified teacher in any recognized educational system.

In addition, for five-year certification, academic and occupational instructors must demonstrate competency in six areas: (1) Philosophy of vocational, technical and adult education; (2) Teaching methods; (3) Curriculum or course construction; (4) Educational psychology; (5) Educational evaluation; (6) Guidance and counseling; and (7) Educational diversity. These competencies can be gained through graduate coursework or district in−service activities. As the importance of credit transfer to other institutions of higher education has increased, the importance of WTCS requirements, many WTCS instructors also hold graduate or professional degrees in their instructional field.

Requirements for technical college certification are described in Chapter TCS 3 of the Wisconsin Administrative Code (see http://www.legis.state.wi.us/rsb/code/tcs/tcs003.pdf).

Further information about the technical college certification process is available at: http://systemattic.wtcsystem.edu/certification/default.htm.

Attachment G

Discussion of WISCareers

WisCareers

For more than 25 years, Wisconsin has supported the development of a career exploration and planning system for youth and adults. Drawing on the resources of the State's Bureau of Labor Market Information in the Department of Workforce Development and additional information from U.S. Department of Labor and colleges and universities across the state and North America, ***WISCareers***, is designed to help youth and adults: (1) become aware of themselves and explore how their unique patterns of interests, skills and values can be applied in their career; (2) become aware of the relevance of how their current educational experiences serve as the foundation for future career aspirations and life path; (3) develop the job-seeking skills needed to acquire meaningful employment and make successful transitions into and throughout the world of work. WisCareers is available in on-line and print materials and is widely deployed throughout the state in schools, one-stop Job Centers, technical colleges, and universities.

Through multiple modules incorporating the national career development guidelines, ***WISCareers***, offesr students and job-seekers: (1) self-assessments matching occupations to interests, values, and skills; (2) comprehensive information on more than over 700 occupations and overviews of more than 450 specializations; (3) information organized by career clusters and pathways for easy exploration of occupations and a better understanding of how they are related to one another; (4) both Wisconsin and national labor market information; (5) comprehensive information for more than 3,400 post-secondary schools and over 1,2000 educational program; (6) an ePortfolio that helps individuals to provide evidence of their potential by demonstrating past accomplishments that can be shared with others; (7) an Individual Learning Plan to support career and education planning; and (8) a Career Planning Guide for high school students. For additional information about ***WISCareers***, see http://wiscareers.wisc.edu.

Attachment H

Data Sharing Agreements

Data Sharing Agreement Between
the Department of Workforce Development

and

the Wisconsin Technical College System Board

PURPOSE OF AGREEMENT

This agreement is between the Department of Workforce Development (DWD) and the Wisconsin Technical College System Board (WTCSB). The data shared shall be used for the tracking of employment and retention of employment in the annual performance reports as required by the Adult Education and Family Literacy Act and the Carl D. Perkins Vocational and Technology Education Act.

DEFINITIONS

DWD is the agency designated to administer the unemployment insurance (UI) program for the State of Wisconsin.

Unemployment Insurance Division (UI Division) is the specific subunit of DWD that administers the UI program.

WTCSB is the agency of the State of Wisconsin that provides information and technical support for the provision of technical and adult education in Wisconsin.

LEGAL AUTHORITY AND JURISDICTION

Release of confidential UI information to WTCSB is authorized by §108.14(7) of the Wisconsin Statutes, and DWD sec. 149.05(1)(L) of the Wisconsin Administrative Code.

The parties to this agreement consent that they will follow Wisconsin law and administrative rules. Should any dispute under this agreement arise, the parties agree that any resulting action will be filed exclusively with the applicable state court, federal court, or agency in Wisconsin.

DATA TO BE SHARED

WTCSB will furnish to DWD a file containing approximately 30,000 names and Social Security Numbers (SSNs) of its clients. This request will be made one or two times annually. This information will then be cross-matched against the UI Wage Record file to obtain wage data for any client names and SSNs contained therein. Each input record in the file must be in the Match Record Type 1 (MR1) format. For any matched cases, DWD will transmit back to WTCSB the input record and the UI wage data contained in its Wage Record file.

The UI wage data will be in the Match Record Type 2 (MR2) output record format and will be appended to the input record. WTCSB understands that some of the data elements described in the MR1 input record format may be irrelevant for its cross-matching needs. However, WTCSB must place the name and SSN for each of its client input records in the columns required by the MR1 format.

WTCSB understands that the employer names, addresses, and phone numbers contained in DWD's data files may not be the same as those reported by WTCSB clients. DWD employer data may be provided by the employer's accounting firm or from a location that is different than the actual work location of the WTCSB client.

WTCSB recognizes that no more than five quarters of wage data per any one cross-match can be provided via the cross-matching process described in this agreement and that the most recently completed calendar quarter of wage data will not be available.

COST OF DATA

The costs are provided in Addendum A. Addendum A is subject to change as DWD's costs of providing the data change. WTCSB will be given 30 days advance notice of any changes in costs. Typically DWD's costs change each state fiscal year. The state fiscal year runs from July 1 through June 30.

WTCSB must provide DWD with a purchase order of sufficient amount to cover the cost of providing this data and contract development costs. DWD must receive this purchase order before any data can be provided to WTCSB.

MUTUAL AGREEMENT TO EXCHANGE DATA

WTCSB agrees to assist DWD in collecting information from Wisconsin Technical Colleges, by providing Social Security Numbers requested by DWD for all attendees in programs or classes identified on the State List of Eligible Training Providers. This information is needed by DWD under the Workforce Investment Act. A data exchange agreement will be separately negotiated with the WTCSB by DWD for this information.

CONFIDENTIALITY & SAFEGUARDING OF DATA

DWD data provided to WTCSB under the terms of this agreement shall be used only as described in this agreement.

WTCSB shall not use the information for any purposes not specifically authorized in this agreement.

Information in electronic format shall be stored and processed in such a manner that unauthorized persons cannot retrieve the information.

Any paper printouts of UI data will be stored in secured files. Confidential UI data will not be placed in files that are subject to public disclosure.

WTCSB agrees that its requirements regarding confidentiality of information as set forth in applicable federal and state statutes, administrative rules, employee handbooks, and policy manuals shall apply equally to any data or information obtained under this agreement.

WTCSB shall instruct designated personnel with access to the information covered under this agreement on the confidential nature of such information, the sanctions specified in §108.24(4), and other applicable statutes regarding unauthorized disclosure of the information covered by this agreement.

DESTRUCTION OF CONFIDENTIAL INFORMATION

Any data that may identify an individual or employer, including copies or paper printouts obtained by WTCSB under the terms of this agreement, will be destroyed by WTCSB staff upon closing the case. Identifiers, which include individual social security number, last names, first names, addresses, telephone numbers, dates of birth, sex, employer names, employer addresses, employer's UI account number, and wage data, will be destroyed in such a way as to insure that they cannot be read after destruction.

CONFIDENTIALITY ACKNOWLEDGEMENT

On behalf of WTCSB, the signor of this agreement agrees to ensure that all WTCSB personnel with access to the information covered under this agreement will adhere to the confidentiality and security policies and procedures of WTCSB and DWD. If DWD confidentiality policies or procedures conflict with those of WTCSB, DWD's policies and procedures will be followed. DWD's confidentiality policies and procedures will be broadly construed to cover all situations involving confidentiality of UI Data.

All confidentiality requirements of this agreement survive the termination, for whatever reason, of the agreement itself.

RE-DISCLOSURE OF INFORMATION

WTCSB agrees that any data obtained under this agreement that may identify an individual will not be re-disclosed to anyone without written approval of DWD or as permitted under applicable federal and state laws and regulations.

COMPLIANCE: ON-SITE INSPECTIONS

WTCSB, pursuant to §137(a)(5)(B) of the Deficit Reduction Act of 1984, P.L. 98-369, agrees to permit authorized DWD personnel to make surprise on-site inspections to ensure that the requirements of confidentiality under this agreement are being met.

WTCSB STAFF AUTHORIZED ACCESS TO UI DATA

WTCSB will designate a staff person to be Agreement Coordinator. WTCSB will provide written notice of subsequent Agreement Coordinator changes to the UI Data Sharing Coordinator as they occur.

The WTCSB Agreement Coordinator will maintain a list of all WTCSB staff having access to UI data. The WTCSB Agreement Coordinator must make this list available to the UI Data Sharing Coordinator, the UI Internal Security Officer and/or the DWD Security Officer immediately upon request. Failure to do so is a violation of this agreement and grounds for immediate suspension of this agreement.

The WTCSB Agreement Coordinator must obtain a signed acknowledgement from each WTCSB staff person with access to UI data stating that he or she has read the "DWD Policy on Confidentiality," similar to that in Addendum B, and agrees to abide by it. The WTCSB Board Agreement Coordinator must make these forms available to the UI Data Sharing Coordinator, the UI Internal Security Officer and/or the DWD Security Officer immediately upon request. Failure to do so is a violation of this agreement and grounds for immediate suspension of this agreement.

TERM OF AGREEMENT

This agreement shall remain in effect until the units agree to amend or terminate it, or until the agreement is suspended or terminated by DWD under the terms set forth in this agreement.

TERMINATION OF AGREEMENT

This agreement can be terminated by either DWD or WTCSB upon 60 days written notice to the other, or immediately by DWD if its staff has any reason to believe that WTCSB has violated any of the conditions set forth in this agreement.

AMENDMENT OF THIS AGREEMENT

All or part of this agreement may be amended at any time by written amendment signed by all parties. It is acknowledged that this agreement is subject to federal and Wisconsin laws, as well as administrative rules and regulations, any of which are subject to change. This agreement will be considered immediately modified in accordance with any applicable changes in federal or state laws, administrative rules and regulations without notice or written amendment.

This provision for automatic amendment will not apply when any party provides written notice to the other party that it desires to challenge a change in federal or state law, administrative rule or regulation, or it believes such change will render its performance under this agreement illegal, impractical, or impossible. This written notice must be provided to the other party within sixty (60) days of the effective date of the applicable federal or Wisconsin law, administrative rule or regulation change. Once such written notice is given, WTCSB and DWD will need to negotiate as to the effect the particular law, administrative rule or regulation change may have on the implementation and continuation of this agreement.

EFFECTIVE DATE

This agreement shall be effective upon the signature of the DWD UI Administrator and an authorized agent of WTCSB.

SIGNATURES

Dated this 8th day of NOVEMBER, 2001

Wisconsin Department of Workforce Development

By: _____

Bruce C. Hagen, Unemployment Insurance Division Administrator, DWD

Dated this 1st day of November, 2001

Wisconsin Technical College System Board

By: _____

Norman C. Kenney, Planning and Management Information Director, WTCSB

ADDENDUM A

Contract Development: WTCSB agrees to reimburse DWD **$538. 00** for its contract development costs. Payment for the DWD's contract development costs must be received by DWD before any data can be exchanged. DWD's contract development costs are based on actual staff time required to develop this data sharing contract.

Crossmatch: WTCSB agrees to pay DWD **$473.00** per crossmatch request that it submits to DWD. This cost is based on the computer rates charged to DWD for data processing, and for DWD staff time required to process the crossmatch.

ADDENDUM B

Policy on Confidentiality for Non UI Divisions

Background:
Section 108.14 (7) provides in part that "the records made or maintained by the department or commission in connection with the administration of this chapter are confidential and shall be open to public inspection or disclose only to the extent that the department or commission permits in the interest of the unemployment insurance program.

Purpose:
DWD staff in Divisions outside of the Unemployment Insurance Division may have access to confidential UI information under data sharing agreements with the UI Division. The purpose of this policy is to inform non-UI Division staff of the Department's requirements for using confidential UI information.

Definitions:
1. Wage file information is the data provided by covered Wisconsin employers in their quarterly reports.
2. Benefit information pertains only to individuals who filed a claim for UI benefits and includes any data needed to establish the claim.
3. Tax information includes employer account number, covered wages, contribution rate, and reserve fund balance.

Policy:
Data is to be used only for the specific purpose outlined in the data sharing agreement.

Data and its information will be safeguarded and secure from outside access.

It is the responsibility of the person having the access to know the purposes for which they can use the data.

Any copy or paper printouts of UI data will be stored in secured files, and data will not be placed in files, which are subject to public disclosure.

Data may not be redisclosed to anyone without the written approval of the UI Division.

Unauthorized release of information is a violation of work rules and could result in disciplinary action. When in doubt, inform the requestor that you must obtain approval before releasing the information.

Unauthorized "browsing" of UI data is also a violation of work rules and could result in disciplinary action even if the information is not shared with anyone. Data is to be accessed <u>only</u> for work related purposes.

Unauthorized disclosure may also be a violation of s. 108.24(24) Statues. This section states that any person who, without authorization of DWD-DUI, permits inspection or disclosure of any record relating to the administration of chapter 108 WI Statues. Shall be fined not less than $25 nor more than $500 or may be imprisoned in the county jail for not more than one year or both. Each such unauthorized inspection or disclosure constitutes a separate offense.

I have read and understand the above policy on confidentiality.

EMPLOYEE NAME: _____

Signature Date

SUPERVISOR: _____

Signature Date

[*DWD form agreement for sharing Unemployment Insurance data and information*]

Revision to Agreement Between DWD and WTCS for Disclosure of Unemployment Insurance Data and Information

Date of original agreement—January 30, 2010

I. Parties to the Agreement

This Agreement for Disclosure of Unemployment Insurance Data and Information is entered into by the Department of Workforce Development (DWD) and the Wisconsin Technical College System (WTCS, or "Data Recipient").

II. Scope and Purpose of this Agreement

A. This Agreement governs use and disclosure of all unemployment insurance data and information disclosed at any time by DWD to Data Recipient and in the possession or control of Data Recipient on or after the effective date of this Agreement (referred to in this Agreement as "UI Data").

B. The purposes of this Agreement are:

1. To comply with 20 CFR Part 603, Wis. Stats. §108.14(7) and Wisconsin Administrative Code Chapter DWD 149 ("DWD 149"), which require DWD in disclosing UI Data to certain persons and entities to enter into an agreement with such persons and entities that contains certain required confidentiality safeguards, record disclosure requirements and consequences for breach.

2. To assure DWD that Data Recipient will comply with all of the applicable requirements of 20 CFR Part 603 and DWD 149 regarding the sharing of UI Data that occurs under this Agreement.

3. To specifically identify the UI Data that DWD will provide to Data Recipient under this agreement, the intended purposes for its use by Data Recipient, the limitations on such use and responsibility of Data Recipient for the costs and providing the UI Data to Data Recipient.

III. UI Data to Be Provided by DWD and Purposes for Its Use

A. DWD will provide to the WTCS UI Data of the type and under the conditions described as follows:

The WTCS will furnish to DWD a file containing client names, Social Security Numbers (SSNs) and WTCS client ID numbers. This request will be made once or twice annually. This information will be cross-matched against the UI Wage Record file to obtain wage data for any matched client names and SSNs. Each input record in the file must be in the Match Record Type 1 (MR1) format. For any matched cases, DWD will transmit back to the WTCS the input record with the SSN removed and the UI data for eight quarters contained in its Wage Record file. The data will include first and last name of the individual, wages paid during the quarter, and the employer name and NAICS code. The UI wage data will be in the Match Record Type 2 (MR2) output record format and will be appended to the input record. DWD agrees that any data obtained from WTCS under this agreement that identifies an individual will not be re-disclosed to anyone without prior approval of WTCS. DWD will utilize all procedures and security mechanisms necessary to prevent unauthorized access to or disclosure of personally identifiable data obtained from WTCS.

C. Purpose for UI Data

The WTCS intends to use the UI Data disclosed under this Agreement solely for the following purposes:

[*Insert statement of Data Recipient's intended purposes for the UI Data. This statement must be sufficiently clear and specific to allow DWD to comply with confidentiality safeguards required by DWD 149.06 and record disclosure requirements of DWD 149.07; and to allow DWD to make an assessment, prior to entering into this Agreement, of whether the Data Recipient's purposes for its use of UI Data are to be approved for disclosure by DWD under the authority and limitations of Wis. Stats. §108.14(7) and DWD 149.05(1).*]

The WTCS is involved in efforts to design more effective postsecondary educational pathways for workers and other dislocated adult learners. It seeks to provide access to increments of further education that lead workers directly to job advancement opportunities. The WTCS is especially concerned about designing educational pathways that help adults who need basic skills or English language skills instruction to transition as quickly and efficiently as possible to postsecondary occupational instruction. As part of this effort, the WTCS needs UI data

- To support research and analysis to inform program and policy development concerning effective training and support services strategies for adult learners
- Specifically, to track the educational trajectory of low skill adults and compare the earnings impact of technical college education among students pursuing different courses of study in technical colleges.

IV. Compensation for Costs of Providing UI Data

Data Recipient will compensate DWD for the actual, necessary and direct costs of location and disclosure of records and data. DWD will invoice Data Recipient for such costs. At its option, DWD may require payment of estimated costs in advance of incurring them and provide adjustments by subsequent credits or refunds.

V. Security and Confidentiality of UI and WTCS Data

A. Data Recipient will utilize all procedures and security mechanisms necessary to prevent unauthorized access to or disclosure of the UI Data, including at a minimum the safeguards required by 20 CFR §603.9 and DWD 149.06 and specifically agrees that it will:

1. Use the UI Data only for purposes authorized by law and this Agreement.

2. Not disclose the UI Data without prior written approval of DWD and otherwise comply with the confidentiality requirements of DWD 149.06.

3. Store the UI Data in a place physically secure from access by unauthorized persons.

4. Store and process the UI Data in an electronic format in a way that is secure from access by unauthorized persons.

5. Take precautions to ensure that only authorized personnel have access to the computer systems in which the UI Data is stored.

6. Make the UI Data accessible only to those staff of Data Recipient who require the data in the official performance of their job duties and for the specific purposes stated in this Agreement. All data will be kept in the strictest confidence and will be made available to staff of Data Recipient on a "need-to-know" basis.

7. Instruct all persons with access to the data on the confidentiality requirements of this Agreement, the applicable federal and state confidentiality requirements of 20 CFR §603.9 and DWD 149.06 and the sanctions specified by law for unauthorized disclosure of information. If requested by DWD, Data Recipient will sign an acknowledgement that all persons with access to the information will be so instructed or have signed agreements to maintain security and confidentiality of UI Data.

8. Maintain a system sufficient to allow a complete and efficient audit of compliance with these safeguard provisions and the other requirements of this Agreement, including complete records of all use, disclosure and limitations on such use and disclosure of UI Data.

9. Provide access to DWD for on-site inspection in order to audit compliance and assure that the requirements of state and federal law and this Agreement are met.

10. Adhere to State of Wisconsin and DWD guidelines on data handling and security during the term of this Agreement and during any audit period thereafter.

11. Destroy the UI Data in a manner and at times specified in writing by DWD.

VI. Duties With Respect to Breach

A. Suspension of UI Data Sharing by DWD; Termination of Agreement by DWD for Cause; Directions Regarding UI Data; Audit.

If DWD believes that Data Recipient has failed to comply with any provision of this Agreement, DWD may suspend data sharing under this Agreement and decline to make further disclosure of UI Data until DWD is satisfied that sufficient corrective action has been taken and there will be no further failure. Whether or not there has been any prior suspension of this Agreement, DWD may at its option immediately terminate this Agreement if Data Recipient fails to make prompt and satisfactory action to correct a failure or breach of security or confidentiality with regard to UI Data it has received from DWD; or if Data Recipient otherwise breaches this Agreement; or if DWD considers itself insecure in the protection of UI Data disclosed to Data Recipient.

B. Mitigation of Breach of Security or Breach of Confidentiality.

In the event that Data Recipient becomes aware of a failure or breach by any of its employees or agents of security or confidentiality with regard to UI Data it has received from DWD or in the event it has reason to suspect that such a failure or breach of security or confidentiality has occurred, including any unauthorized use, disclosure, public exposure or loss of or unauthorized access to UI Data, Data Recipient shall:

1. Within the same business day, notify DWD of the failure or breach, known and suspected, and supply to DWD all available information concerning the nature and extent of such failure or breach.

2. In consultation with DWD take immediate steps to mitigate any harmful effects of such failure or breach and to prevent any additional failure or

breach.

3. Cooperate with DWD to obtain assistance of law enforcement and injunctive or other judicial relief to prevent or curtail any threatened or actual breach of security of UI Data or redisclosure or unauthorized use of UI Data, and to recover UI Data from any person.

4. Take reasonable corrective action prescribed by DWD.

C. Mitigation of Exposure of Personally Identifiable Information.

Definition: As used in this Agreement, "Personally Identifiable Information" means an individual's last name and the individual's first name or first initial, in combination with and linked to any of the following elements, if the element is not publicly available information and is not encrypted, redacted or altered in any manner that renders the element unreadable: (a) the individual's Social Security number; (b) the individual's driver's license number or state identification number; (c) the individual's date of birth; (d) the number of the individual's financial account, including a credit or debit card account number, or any security code, access code, or password that would permit access to the individual's financial account; (e) the individual's DNA profile; or (f) the individual's unique biometric data, including fingerprint, voice print, retina or iris image, or any other unique physical characteristic.

If it is determined by DWD that the failure or breach has or likely resulted in the unauthorized use, access, disclosure, public exposure or loss of Personally Identifiable Information provided by DWD to Data Recipient, Data Recipient shall, at its own expense take the following corrective actions that are directed by DWD:

1. Mitigate any harmful effect on individuals whose Personally Identifiable Information was used, accessed, disclosed, publicly exposed or lost.

2. Notify the affected individuals by mail or other method prescribed by DWD to communicate with individuals. If Data Recipient cannot with reasonable diligence determine the mailing address of certain affected individuals and DWD has not previously communicated with that individual, Data Recipient shall provide notice by a method reasonably calculated to provide actual notice to such individuals.

3. Notify consumer reporting agencies of the unauthorized use, access, disclosure, public exposure or loss of Personally Identifiable Information.

4. Provide credit monitoring for up to one year to affected individuals.

5. Provide identity theft insurance to affected individuals from a company, and under terms, acceptable to DWD for one year from the date the individual enrolls in credit monitoring.

6. Provide a customer service hotline to receive telephone calls and provide assistance and information to affected individuals during hours that meet the needs of the affected individuals, as determined by DWD.

D. Data Recipient's Responsibility for Performance of this Agreement by Agents.

[*Where Data Recipient anticipates sharing the data with an agent that is not its employee, insert the following:*]

Data Recipient acknowledges and agrees: that all UI Data disclosed by DWD under this Agreement is considered to be disclosed to Data Recipient; that Data Recipient intends that such UI Data be disclosed to the Board of Regents of the University of Wisconsin System on behalf of the University of Wisconsin - Madison either directly by DWD or through Data Recipient; that although Laura Dresser in its access and use of the UI Data under this Agreement, is acting solely as Data Recipient's agent and contractor for the purposes identified in this Agreement, Laura Dresser is obligated to DWD as though it were the sole Data Recipient under this Agreement; and that Data Recipient is obligated to DWD to assure that Laura Dresser performs its obligations under this Agreement to DWD.

E. Remedies for Breach of this Agreement.

Data Recipient shall be liable for and shall indemnify and hold DWD harmless for all losses, costs, claims or damages sustained by DWD due to: (1) unauthorized use, access, disclosure, public exposure or loss of UI Data resulting from any failure or breach of security or confidentiality of UI Data maintained by Data Recipient or its agents under this Agreement, whether such failure or breach is initiated or caused by Data Recipient or its agents or by other persons or entities not party to this Agreement; or (2) other breach of this Agreement by Data Recipient or its agents.

In the event of breach of this Agreement by Data Recipient, DWD may obtain relief under state or federal law, including recovery of damages, penalties, restitution, injunction or recovery of charges to federally granted funds, and take any action authorized or required of DWD by state or federal laws or regulations. Notwithstanding any other provision in this Agreement, DWD reserves all rights that it may have, under this Agreement or otherwise, in law or equity for any breach of duty owed to DWD by Data Recipient or its agents.

Data Recipient acknowledges and agrees that the unauthorized use, access,

disclosure, public exposure or loss of UI Data may cause immediate and irreparable injury to the individuals whose UI Data is exposed to access or disclosed and to DWD, which injury will not necessarily be compensable by money damages and for which there is not an adequate remedy available at law. Accordingly, the parties specifically agree that DWD, on its own behalf or on behalf of the individuals whose UI Data is used, accessed, disclosed, exposed or lost by a failure or breach of security or confidentiality by Data Recipient, shall be entitled to obtain injunctive or other equitable relief to prevent or curtail any such failure or breach, threatened or actual, without posting security and without prejudice to such other rights as may be available under this Agreement or under applicable law.

Data Recipient agrees that unauthorized use, access, disclosure, public exposure or loss of UI Data may result in damage to DWD's reputation and ability to serve the public interest in its administration of programs affected by this Agreement. Such amounts of damages are not calculable to any degree of certainty and thus shall be liquidated in the amounts below:

1. $1,000 for each individual whose UI Data was used or disclosed;

2. $2,500 per day for each day that Data Recipient fails to substantially comply with all reasonable requests by DWD for corrective action under this Agreement.

Upon notice to Data Recipient, Data Recipient shall promptly pay DWD the amounts assessed under this provision. Assessment under this provision is in addition to other remedies under this Agreement and as provided in law or equity.

VII. Term and Termination of Agreement

This Agreement will be effective upon signature by both parties. Any party may terminate this Agreement without cause by giving written notice of such termination to the other party.

The duties of Data Recipient regarding security, confidentiality, maintenance and destruction of UI Data and duties with respect to breach (Sections V and VI) under this Agreement shall survive the termination of the Agreement. Following termination of this Agreement, Data Recipient shall adhere to DWD's written directions regarding maintenance, return and destruction of all UI Data and records of use and disclosure of UI Data.

VIII. Audit

DWD may elect to audit the compliance of Data Recipient and its agents with this Agreement at any time prior to or within 30 days following termination of this Agreement. Data Recipient and its agents shall fully cooperate in the conduct of such an audit by DWD and its agents, including, if requested by DWD, on-site

inspections. Such audit shall extend to matters of compliance by Data Recipient and its agents both prior to and after termination of the Agreement. In the event of an audit preceded by a breach of the Agreement by Data Recipient or its agents, all costs incurred by DWD to conduct the audit, including DWD's expense of compensating retained auditors, shall be charged to and paid by Data Recipient.

IX. Authority to Request and to Provide Data

A. Requests for UI Data under this Agreement and all other inquiries and notices required by this Agreement are to be addressed to:

Karen Gerrits
IS Comprehensive Services Specialist
UI Data Sharing Coordinator
Unemployment Insurance Division
201 E Washington Ave
PO Box 7905
Madison, WI 53707-7905
Email: karen.gerrits@dwd.wisconsin.gov

B. All requests for UI Data made by Data Recipient and its agents are to be provided to DWD by:

Kelly Shisler, Associate Vice President
Office of System Finance and Administration
Wisconsin Technical College System
4622 University Avenue
P. O. Box 7874
Madison WI 53707-7874
e-mail: kelly.shisler@wtcsystem.edu

X. Authority, Signing and Integration

A. DWD has granted full authority to sign this agreement to:

Daniel J. LaRocque
Director of the Bureau of Legal Affairs
Unemployment Insurance Division
201 E Washington Ave
PO Box 7905
Madison, WI 53707-7905
Email: daniel.larocque@dwd.wisconsin.gov

B. Data Recipient has granted full authority to sign this Agreement to:

Kelly Shisler, Associate Vice President
Office of System Finance and Administration
Wisconsin Technical College System
P. O. Box 7874
4622 University Avenue
Madison WI 53707-7874
e-mail: kelly.shisler@wtcsystem.edu

C. Agent for the Data Recipient:

Michael Morris, Contracts Coordinator

The Board of Regents of the University of Wisconsin System

Office of Research and Sponsored Programs

21 North Park Street, Suite 6401

Madison WI 53719

Email: mwmorris@rsp.wisc.edu

This Agreement may be signed in counterpart and amended only in writing signed by the parties.

AGREED:

Wisconsin Department of Workforce Development

4/29/2010

Daniel J. LaRocque 1/30/2010
Director of the Bureau of Legal Affairs
Unemployment Insurance Division

Wisconsin Technical College System

1/29/2010

Kelly Shisler, Associate Vice President 1/29/2010
Office of System Finance and Administration
Wisconsin Technical College System

The Board of Regents of the University of Wisconsin System

3/29/10

Michael Morris (Date)
Contracts Coordinator

Attachment I

Local Partnership Student Participation Data

Table 1. The North Central Wisconsin AM-POS Network: Key Descriptors

2009-10 Data[1] *unless otherwise indicated*	**North-central Technical College**	**Wausau East High School**	**Wausau West High School**	**DC Everest Area High School**	**Spencer High School**
Total enrollment, headcount	6,700	1,195	1,498	1,366	372
Percent low-income students	~63%	40.5%	35.5%	24.4%	34.9%
Graduates, diplomas or degrees, #	1,289	320	470	462	57
10th Grade WKCE- Math, % proficient/advanced	n/a	72.0%	75.0%	79.1%	85.9%
10th grade WKCE-Science, % proficient/advanced	n/a	76.0%	73.6%	80.4%	68.9%
ACT Composite Score/% tested (2008-09 Data[2])	n/a	21.6%/ 59.3%	21.6%/ 59.3%	22.1%/ 59.4%	20.3/ 54.5%
Percent of graduates attending WTCS directly from high school, Class of 2008	n/a	9.5%	10.0%	11.9%	1.8%
Enrollment in Manufacturing Programs, # of students/% female	338/ 6.2%	40/ 15%	128/ 13%	36/ n/a	80/ n/a
No. of transcripted (dual) credit courses offered	n/a	18	18	6	9
Transcripted (dual) credit earned No. of students, 2007-08 No. of credits earned	n/a	 25 87	 54 156	 49 147	 n/a n/a
WISCareers Usage					
Student login, #	1858	1122	1541	2265	1812
Professional logins, #	129	6	143	210	164
Students with ePorfolios established, #	2969	1156	1210	2422	463

[1] Data retrieved on September 3, 2010 from the Information Network for Successful Schools (WINSS) website http://www.dpi.state.wi.us/sig/index.html

[2] Data retrieved on September 3, 2010 from the Wisconsin School District Performance Report website https://wlds.dpi.wi.gov/spr/district-report.action?district=5467&year=2008-09

Attachment J

Local Partnership Team Join Letter of Intent

Northcentral TECHNICAL COLLEGE

Real Life. Real Learning.

Lori A. Weyers, Ph.D., President

September 2, 2010

LETTER OF INTENT TO PARTICIPATE

Dan Clancy, President
Wisconsin Technical College System
Anthony Evers, State Superintendent
Wisconsin Department of Public Instruction
4622 University Avenue
PO Box 7874
Madison, Wisconsin 53707-7874

Dear Mr. Clancy and Dr. Evers:

Our evolving regional Advanced Manufacturing Education partnership (Northcentral Technical College and the school districts of Wausau, Spencer, and DC Everest in Weston) is addressing the several key economic and education challenges confronting our northern Wisconsin communities. Being active participants in the ***Wisconsin Advanced Manufacturing Partnership Innovation Network*** (WAMPIN) will allow us to sustain and strengthen the vitally important manufacturing sector workforce.

Despite the loss of 50,000 jobs in 2009, the state's manufacturing sector represents one-sixth of our workforce and 20% of the state economy ($48.8 billion in 2008). According to the Wisconsin Manufacturing Extension Partnership, nearly 10,000 Wisconsin manufacturers currently employ 440,000 workers. Last year Wisconsin surpassed Indiana as the leading manufacturing sector state with an annual payroll of $23.7 billion and average annual wages of more than $48,000.

Currently, the wood product manufacturing sector in our region is experiencing a 15% annual growth in employment. Moreover, the most recent workforce development projections from the Department of Workforce Development reveal an anticipated for 3,770 new employees annually through 2016 in 29 different manufacturing occupations, many of which require postsecondary education credentials and degrees in one of three Manufacturing career pathways--

Maintenance, Installation and Repair
Manufacturing Production Process Development
Production

Equally important, the manufacturing sector supports high-wage and high-skill jobs in other sectors including transportation, logistics, and marketing. In North Central Wisconsin, the national priority for college and career readiness is anchored solidly on providing students with broader and deeper knowledge and career path competency in the manufacturing cluster.

1000 W. Campus Drive
Wausau, WI 54401.1899
888.NTC.7144 | 715.675.3331
ntc.edu

For numerous reasons, we are enthusiastic about being selected to be the lead Local Partnership Team in the ***Wisconsin Advanced Manufacturing Pathway Innovation Network*** (WAMPIN).

1. WAMPIN membership will enable us to directly and strategically address the regional education and workforce development challenges outlined above. WAMPIN participation will strengthen the regional capacity of our education systems to strengthen the regional and state economy.
2. We will be able to build upon several recent innovations, such as the Wausau Engineering and Global Leadership Academy http://www.wausauegl.org/ and the DOL-funded SPARK project, which has enabled rural Wisconsin residents and high school students located in and near Spencer to obtain technical college credit and nationally recognized credentials in production welding. WAMPIN extends our commitment to supporting continuous improvement and strategic innovation in North Central Wisconsin region.
3. By assessing rigorously the quality of our Advanced Manufacturing Pathway Programs using the comprehensive 10-component framework, we will develop useful insights on which components are associated with key performance outcomes. In this era of data driven decision-making and increased accountability, educators must have the tools and processes to document the influence of teaching, learning, counseling, skill assessments and other factors on raising our high school graduation rates and the successful transition of graduates to postsecondary institutions.
4. The participation of instructors, counselors/advisers, and administrators from each of our districts and NTC in the on-line professional learning community and summer institutes will provide valuable opportunities to analyze data, identify key findings, and target improvements in the under-performing program components.
5. The U.S. Department of Education's vision of Rigorous Programs of Study, which guides the WAMPIN design, will eliminate some long standing myths. All schools and colleges need to look closely at the merits of project and problem-based learning in carefully integrated technical and academic studies. By analyzing locally collected data on the mathematics, writing, and technical skills created by courses such as Digital Electronics and Design Essentials, we will be providing future graduates with essential 21st century competencies (critical thinking, problem-solving, global perspectives and team work)--competencies that will serve them well in life pursuits beyond or in a career in advanced manufacturing.

We look forward to working closely with the State Leadership Team and the UW-Madison Center on Education and Work to improve our capacity and educational outcomes in the Advanced Manufacturing Education Pathway.

Sincerely,

Lori A. Weyers, PhD.

Lori Weyers, President
Northcentral Technical College

Steven K. Johnson, Interim Superintendent
Wausau School District

Kristine A. Gilmore, Superintendent
D. C. Everest School District

Mike Endreas, Superintendent
Spencer School District

Attachment K

Letters of Support from Other Key Organizations

September 3, 2010

Dear Secretary Duncan:

We are pleased to pledge our full support for Wisconsin's Rigorous Program of Study grant application being submitted to the U.S. Department of Education Office for Vocational and Adult Education. Wisconsin's application proposes to address rapidly rising and shifting manufacturing workforce development needs by designing and implementing the Wisconsin Advanced Manufacturing Pathway Education Network (WAMPEN).

The advanced manufacturing career pathway was selected for this multiple-year, capacity-building project for several reasons. As the nation's leading state in manufacturing employment, this sector provides high-wage jobs ($48,166) for one-sixth of Wisconsin's workforce, while concurrently supporting firms with substantial employment in related sectors, e.g. transportation, logistics, research, science and technology. According to the Wisconsin Manufacturing Extension Partnership, Wisconsin's exports to other nations have risen 62% over the past five years. Products manufactured in Wisconsin represent 85% of the state's exports annually. Reflecting the centrality of advanced manufacturing in our communities, 52% of high schools and all 16 technical college districts have adopted Perkins-approved programs of study in the manufacturing cluster. Beyond strengthening the capacity of communities to prepare youth and adults for 'Next Generation Manufacturing' careers, our vision of rigorous programs of study includes deepening students' understanding of how advanced, global manufacturing matters to Wisconsin's culture and economy.

As the birthplace of the nation's registered apprenticeship system, Wisconsin remains in the forefront of numerous efforts to advance the quality and impact of education and training programs. Most recently, our Industry Partnerships and Career Pathways initiatives are advancing Governor Doyle's education and workforce agenda and moving the state's economy forward in challenging times. These efforts use industry-led regional partnerships to target resources more effectively in high-need, high-growth sectors such as advanced manufacturing, health care and energy. WAMPEN uses a collaborative, regional approach to improve student outcomes in the manufacturing pathway, which will initially benefit the North Central region, and serve subsequently as a rigorously evaluated advanced manufacturing pathway template for statewide implementation.

Career pathways and programs of study are a powerful framework to help students see the importance of academic and technical skill achievement, as well as understand how high school career preparation can lead to success in further education and the workforce. The WAMPEN project will enable us to document the indicators of students' career and college readiness and other factors related to high quality programs of study in the advanced manufacturing sector.

Sincerely,

Tony Evers, PhD
State Superintendent
Department of Public Instruction

Dan Clancy, President
Wisconsin Technical
College System

Roberta Gassman, Secretary
Department of Workforce
Development

Northeast
Wisconsin Technical College

Dr. H. Jeffrey Rafn, President

Visit our Web site at...www.nwtc.edu

September 2, 2010

LETTER OF SUPPORT AND FUTURE INTENT

Dan Clancy, President
Wisconsin Technical College System
Anthony Evers, State Superintendent
Wisconsin Department of Public Instruction
4622 University Avenue
PO Box 7874
Madison, Wisconsin 53707-7874

Dear Mr. Clancy and Dr. Evers:

We have reviewed the ***Wisconsin Advanced Manufacturing Partnership Innovation Network*** (WAMPIN) Project Overview disseminated recently by James Mackey from the WTCS Office. Northeast Wisconsin Technical College is deeply committed to preparing students, including adult learners, educators, and local employers to engage effectively in building the next Generation Manufacturing Workforce in Northeast Wisconsin.

If funded, the WAMP Innovation Network would provide us with expanded capacity and new resources and tools for documenting student progress and achievement of key technical and academic skills in advanced manufacturing. Additionally, we would profit from the targeted technical assistance enabling us to rigorously assess the school-wide and college program-level implementation of the POS components outlined in the Wisconsin Career Cluster and Pathway Implementation Guide. During project years 2, 3 or 4, we plan to commit and support a 5-10 person Local Partnership Team of lead teachers and administrators to the WAMP Innovation Network process.

We look forward to working closely with the State Leadership Team and the UW-Madison Center on Education and Work to improve our capacity and educational outcomes in the Advanced Manufacturing Education Pathway.

Sincerely,

Lori Suddick

Lori Suddick
Vice President for Learning

GREEN BAY CAMPUS
2740 W. Mason St., P. O. Box 19042
Green Bay, WI 54307-9042
(920) 498-5400

MARINETTE CAMPUS
1601 University Dr.
Marinette, WI 54143
(715) 735-9361

STURGEON BAY CAMPUS
229 N. 14th Ave.
Sturgeon Bay, WI 54235-1317
(920) 746-4900

or call toll-free (800) 422-NWTC

Technology Education Program
224D Communication Technologies

University of Wisconsin-Stout
P.O. Box 790
Menomonie, WI 54751-0790

715/232-5619
715/232-1441 Fax

September 2, 2010

LETTER OF SUPPORT

Dan Clancy, President
Wisconsin Technical College System
Anthony Evers, State Superintendent
Wisconsin Department of Public Instruction
4622 University Avenue
PO Box 7874
Madison, Wisconsin 53707-7874

Dear Mr. Clancy and Dr. Evers:

I have reviewed the ***Wisconsin Advanced Manufacturing Partnership Education Network*** (WAMPEN) Project Overview disseminated recently by Brent Kindred from the WDPI.

If funded, the WAMPEN initiative would have the ability to provide its stakeholders with resources and tools for documenting student progress and achievement of key technical and academic skills in advanced manufacturing. Additionally, it would facilitate the assessment of the school-wide and college program-level implementation of the POS components outlined in the Wisconsin Career Cluster and Pathway Implementation Guide.

The concepts included in this grant address ways that a State Leadership Team and the UW-Madison Center on Education and Work might improve Wisconsin's capacity and educational outcomes in the Advanced Manufacturing Education Pathway.

Sincerely,

Sylvia Riala

Project Lead the Way Coordinator for Technology Education

September 2, 2010

LETTER OF SUPPORT AND FUTURE INTENT

Dan Clancy, President
Wisconsin Technical College System
Anthony Evers, State Superintendent
Wisconsin Department of Public Instruction
4622 University Avenue
PO Box 7874
Madison, WI 53707-7874

Dear Mr. Clancy and Dr. Evers:

We have reviewed the ***Wisconsin Advanced Manufacturing Partnership Education Network*** (WAMPEN) Project Overview disseminated recently by James Mackey from the WTCS Office. Western Technical College is deeply committed to preparing students, including adult learners, educators, and local employers to engage effectively in building the Next Generation Manufacturing workforce in western Wisconsin.

If funded, the WAMP Innovation Network would provide us with expanded capacity and new resources and tools for documenting student progress and achievement of key technical and academic skills in advanced manufacturing. Additionally, we would profit from the targeted technical assistance enabling us to rigorously assess the school-wide and college program-level implementation of the POS components outlined in the Wisconsin Career Cluster and Pathway Implementation Guide. During project years 2, 3 or 4, we plan to commit and support a 5-10 person Local Partnership Team of lead teachers and administrators to the WAMP Innovation Network process.

We look forward to working closely with the State Leadership Team and the UW-Madison Center on Education and Work to improve our capacity and educational outcomes in the Advanced Manufacturing Education Pathway.

Sincerely,

Dr. Margaret (Peg) Boudreau

Margaret (Peg) Boudreau, PhD
Vice President of Instruction

jks

cc: Rich Westpfahl

September 2, 2010

LETTER OF SUPPORT

Dan Clancy, President
Wisconsin Technical College System
Anthony Evers, State Superintendent
Wisconsin Department of Public Instruction
4622 University Avenue
PO Box 7874
Madison, Wisconsin 53707-7874

Dear Mr. Clancy and Dr. Evers:

We have reviewed the ***Wisconsin Advanced Manufacturing Partnership Education Network*** (WAMPEN) Project Overview disseminated recently by Brent Kindred from the Wisconsin Department of Public Instruction (WDPI). The Wisconsin Affiliate University for the Project Lead The Way (PLTW) Program, Milwaukee School of Engineering (MSOE) is committed to supporting this project, if funded, because the end objectives of the undertaking are essentially identical to those of the PLTW Program – promoting awareness, providing the academic rigor, and defining pathways for the next generation science, technology, engineering, and mathematics (STEM) workforce in Wisconsin.

The Wisconsin Affiliate would be pleased to work with the WAMPEN State Leadership Team and the UW-Madison Center on Education and Work to identify opportunities for sharing experiences, connecting with teachers and students, partnering with industry, and improving educational outcomes in the Advanced Manufacturing Education Pathway.

Sincerely,

Steven K. Salter, P.E.
Director, Project Lead The Way – Wisconsin
Milwaukee School of Engineering
1025 North Broadway
Milwaukee, WI 53202

Wisconsin Manufacturing Extension Partnership
877-856-8588 • www.wmep.org
2601 Crossroads Drive • Madison WI 53718-7923

September 1, 2010

Dan Clancy, President
Wisconsin Technical College System
Anthony Evers, State Superintendent
Wisconsin Department of Public Instruction
4622 University Ave.
P.O. Box 7874
Madison, WI 53707-7874

Dear Mr. Clancy and Dr. Evers:

We have reviewed the Wisconsin Advanced Manufacturing Pathway Education Network (WAMPEN) Project Overview sent to us from James Mackey of the WTCS Office.

The Wisconsin Manufacturing Extension Partnership is committed to assisting in the preparation of students, including adult learners, educators and Wisconsin manufacturers, for successful employment in the Next Generation Manufacturing workforce.

Wisconsin manufacturers have a continued need to find educated and skilled talent in order to compete and succeed. This program will provide assistance in that effort and allow us to continue and expand our long-standing partnership with the Wisconsin Technical College System.

We look forward to working with the State Leadership Team and the UW-Madison Center of Education and Work to improve the outcome of the Advanced Manufacturing Education Pathway.

Sincerely,

Mike Klonsinski
Executive Director

MK:lh
cc: James Mackey

Emily Stover DeRocco
President

MANUFACTURING Institute

September 1, 2010

Mr. Dan Clancy, President
Wisconsin Technical College System
Dr. Anthony Evers, State Superintendent
Wisconsin Department of Public Instruction
4622 University Avenue
PO Box 7874
Madison, Wisconsin 53707-7874

Dear Mr. Clancy and Dr. Evers:

The Manufacturing Institute (MI) is a non-profit, non-partisan affiliate to NAM, focused on delivering leading-edge solutions, information and services to the nation's manufacturers through its National Center for the American Workforce and its National Center for Manufacturing Innovation and Research.

We have reviewed the ***Wisconsin Advanced Manufacturing Partnership Education Network*** (WAMPEN) Project Overview disseminated recently by James Mackey from the WTCS Office. The Manufacturing Institute is committed to supporting efforts to prepare the next generation manufacturing workforce in Wisconsin, including the implementation of the Advanced Manufacturing Pathway (AMP).

The AMP education initiative and its Leadership Team are committed to implementing an advanced manufacturing program of study that incorporates the systematic use of longitudinal and integrated data systems by local education and business partners to: (a) document program of study implementation, (b) assess student performance and outcomes, and (c) make strategic improvements in educational practices. This strategy aligns with and supports national efforts to implement the ***NAM-Endorsed Manufacturing Skills Certification System***, a system of stackable certification programs that validate the basic skills requirements across all sectors in the manufacturing economy. By deploying this nationally-recognized Manufacturing Skills Certification System in Wisconsin and aligning educational pathways in community and technical colleges, WAMPEN will help workers not only receive appropriate training but also earn industry-recognized credentials, and begin and advance their career pathways. In addition, for Wisconsin's manufacturing base, this effort helps to close the skills gap and create the flexible next generation manufacturing workforce necessary to compete in the global economy.

If funded, WAMPEN would provide Wisconsin with expanded capacity and new resources and tools for documenting student progress and achievement of key technical and academic skills needed in advanced manufacturing. The Manufacturing Institute is committed to the alignment of education programs that are evidence-based, driving results for manufacturing employers, and WAMPEN offers the state the opportunity to build on and accelerate work underway. We look forward to working closely with the State Leadership Team and the UW-Madison Center on Education and Work to improve the capacity of and educational outcomes from the Advanced Manufacturing Education Pathway.

Sincerely,

Emily Stover DeRocco
President

Attachment L

Detailed Project Management Plan

PR/Award # V051C100009

Project Management Plan--Wisconsin Advanced Manufacturing Education Pathway Network

Phase	Objective	Project Objectives Activities-Tasks-Outcomes-Deliverables	Product/ Outcome	Start Date	Comp Date	Owner(s)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	1	**Plan and conduct a comprehensive baseline assessment of the AM-POS implementation and student outcomes in the pilot Network site (NTC and three high schools).**																				
	1.1	**Conduct a formal project briefing with key AM-POS stakeholders--all LPT members and others**																				
		Compile and present POS research and evaluation literature	Lit Summary	10/1/2010	10/15/2010	Jim Frasier	X															
		Prepare WAMPEN Briefing and news release	Briefing and Media Releases	10/1/2010	10/212010	Allen Phelps and SLT	X															
		Deliver Briefing presentation and media release in collaboration with SLT and LPT	Briefing and Media Releases	10/29/2010	10/29/2010	Phelps, SLT, LPT	X															
	1.2	**Assemble 2005-2010 Longitudinal Student Outcome Data for LPT Member Institutions**																				
		Evaluator and SLT members attend OVAE Evaluation Mtg in DC	Evaluation Plan Addendum			Jim Frasier	X															
		Secure data extraction MOU with DPI, WTCS, DWD, and LEA data managers	MOU	10/1/2010	3/30/2011	Jim Frasier	X	X	X													
		Secure IRB approval to execute student outcome data extractions	Approval	5/1/2011	5/30/2011	Jim Frasier			X													
		Develop data extraction program for DPI-LDS and WTCS-SRC	Data Extraction Tool	4/1/2011	4/30/2011	Jim Frasier			X													
		Pilot test data extraction tool	Pilot Test	5/1/2011	5/30/2011	Jim Frasier			X													
		Submit data extraction requests to DPI and WTCS	Request	6/1/2010	6/152011	Jim Frasier			X				X				X				X	
		Conduct data extraction from DPI-LDS and WTCS-SRC	Data Reports	6/15/2011	7/30/2011	Jim Frasier			X				X				X				X	
		Analyze student outcome data for each of 3 high schools and the technical college	Outcome Baseline Data Sets	8/1/2011	8/15/2011	Jim Frasier				X												
		Prepare outcome evaluation report with student baseline data for each of 3 high schools & technical college	Evaluation Reports	9/1/2011	9/15/2011	Jim Frasier				X				X				X				X
		Present outcome data report at each of 3 high schools and technical college AM-POS LPT members	Summative Eval Reports	9/15/2011	9/30/2011	Jim Frasier				X				X				X				X
		Submit data extraction requests to WTCS for drawing sample of 100 AMP technical college students to form control group for comparing student outcomes with students in AM-POS intervention	Control Group Baseline Data	3/1/2011	4/30/2011	Jim Frasier		X														
		Analysis of student outcome data against control group baseline data for each of 3 high schools and technical college	Summative Eval Reports	Annually September	Annually September	Jim Frasier								X				X				X
	1.3	**Design, develop, pilot test, and administer stakeholder instruments for assessing effectiveness of 10 AMP-POS Design Framework components**																				
		Dev. 4 stakeholder group sets of 10 POS Design Framework component assessments	Instruments	11/1/2010	12/30/2010	Jim Frasier	X															
		Pilot test instruments at non-AM-POS intervention sites	Pilot Test	1/1/2011	2/28/2011	Jim Frasier		X														
		Refine instruments	Fully Developed Instruments	3/1/2011	328/2011	Jim Frasier		X														
		Administer instruments at AM-POS high school and tech college sites	Data Collected	4/1/2011	4/15/2011	Jim Frasier			X				X				X				X	
		Analyze student data for each of 3 high schools and the technical college	Baseline Data	4/16/2011	4/30/2011	Jim Frasier			X													
		Analysis of each stakeholder's set of 10 POS Design Framework component data against baseline data for each of 3 high schools and technical college	Comparison Data			Jim Frasier							X				X				X	
		Produce evaluation reports for each site's effectiveness in implementing 10 AM-POS Design Framework components	Formative Eval Reports	5/1/2011	5/30/2011	Jim Frasier			X				X									
		Present evaluation report at each of 3 high schools and technical college AM-POS local project teams	Eval Reports Presented	6/15/2011	6/30/2011	Jim Frasier			X				X				X				X	
	1.4	**Pilot test, refine and administer Wisconsin Career Cluster & Pathway Framework 10 Component Survey for assessing constancy of AMP-POS implementation**																				
		Pilot test instrument with AM Advis. Com.at non-AM-POS intervention site	Pilot Test	12/1/2010	12/20/2010	Jim Frasier		X														
		Refine instrument	Fully Developed Instrument	1/1/2011	1/30/2011	Jim Frasier		X														
		Administer instrument to AM-POS high school and tech college local project teams	Data Collected	2/1/2011	2/28/2011	Jim Frasier			X				X				X				X	
		Analyze data for each of 3 high school and tech college administration	Baseline Data	3/1/2011	3/15/2011	Jim Frasier			X													
		Analyze data for each of 3 high school and tech college administration	Comparison Data			Jim Frasier							X				X				X	
		Produce evaluation reports for each of 3 high schools and tech college local project teams	Formative Eval Reports	3/16/2011	4/152011	Jim Frasier			X				X				X				X	
		Present evaluation report at each of 3 high schools and technical college AM-POS local project teams	Evaluation Reports Presented	6/15/2011	6/30/2011	Jim Frasier			X				X				X				X	
	1.5	**Conduct 2-day External Evaluation Team visits to 3 high schools and technical college**																				
		Convene External Evaluation Team and conduct on-site visits to each of 3 high schools and technical college	On-Site visit to each site	5/1/2011	5/30/2011	Jim Frasier			X				X				X				X	
		Individual members of External Evaluation Team completes instruments for assessing effectiveness of 10 AM-POS Design Framework components	Data Collected	5/1/2011	5/30/2011	Jim Frasier			X				X				X				X	
		Individual members of External Evaluation Team completes Wisconsin Career Cluster & Pathway Framework 10 Component Survey for assessing constancy of AM-POS implementation	Data Collected	5/1/2011	5/30/2011	Jim Frasier			X				X				X				X	
		Instruments completed by External Evaluation Team analyzed	Baseline Data	5/15/2011	6/1/2011	Jim Frasier			X													
		Instruments completed by External Evaluation Team analyzed	Comparison Data										X				X				X	
		In consultation with External Evaluation Team, Evaluator produces External Evaluation Team reports for each of 3 high schools and tech college local project teams	Formative Eval Reports	6/1/2011	6/15/2011	Jim Frasier			X				X				X				X	
		Present evaluation report at each of 3 high schools and technical college AM-POS local project teams	Evaluation Reports Presented	6/15/2011	6/30/2011	Jim Frasier			X				X				X					

e204

PR/Award # V051C100009

Project Management Plan--Wisconsin Advanced Manufacturing Education Pathway Network

Phase	Objective	Project Objectives Activities-Tasks-Outcomes-Deliverables	Product/ Outcome	Start Date	Comp Date	Owner(s)	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2A	2	**Implement an AM-POS targeted technical assistance/professional learning community strategy for implementing the 10 POS Design Framework components.**																				
	2.1	Compile summary literature reviews/syntheses on professional learning communities	Liter. Synthesis	1/1/2011	3/15/2011	Julie Durham		X				X				X				X		
	2.2	Design and build/refine initial version of on-line PLC for WAMPEN	PLC specifications	11/1/2010	2/15/2011	Julie Durham	X				X				X				X			
	2.3	Convene LPT meeting(s) to review school level evaluation reports and plan Summer Institutes	Meeting Notes	3/15/2011	3/20/2011	Durham, Washbon, SLT		X				X				X				X		
	2.4	Identify school level data patterns on constancy of POS component implementation	Pattern Analysis	4/15/2011	4/20/2011	LPT/CEW Staff			X				X				X				X	
	2.5	Benchmark and host LPT discussions on leading POS component implementation practices	Analysis of Leading Practices	6/1/2011	6/5/2011	Julie D/Janet W			X				X				X				X	
	2.6	Establish school level POS component improvement plans with performance targets	LPT Action Plan	6/1/2011	6/5/2011	Julie D/Janet W			X				X				X				X	
	2.7	Identify potential student learning and/or college-career readiness improvement targets	LPT Action Plan	8/1/2011	8/6/2011	Julie D/Janet W				X				X				X				X
	2.8	Set student outcome improvement targets for upcoming year	LPT Action Plan	8/1/2011	8/6/2011	Julie D/Janet W				X				X				X				X
	2.9	Conduct monthly asssesments with LPT to strengthen TA activities and PLC resources	On-line Assessment	4/1/2011	9/15/2011	Janet W			X	X			X	X			X	X			X	X
2B	2	**Establish baseline data for measuring the effectiveness of the AM-POS utilization of the 10 POS Design Framework-components during project years 2-4 inclusive.**																				
	2B.1	Review and evaluate all Year 1 baseline assessment data collection tools	Updated Tools	7/1/2011	9/1/2100	Jim Frasier				X				X				X				X
	2B.2	Add additional data collection tools based on External Evaluation report recommendations	New Tools	7/1/2011	9/1/2100	Jim Frasier				X				X				X				X
	2B.3	Revise the State and local data extraction protocols	Updated Tools	7/1/2011	9/1/2100	Jim/Janet				X				X				X				X
	2B.4	Revise the AM-POS data collection instruments	New Instruments	7/1/2011	9/1/2100	Jim Frasier				X				X				X				X
	2B.5	Revise the Baseline Assessment Report data analysis and report format	Analytics	7/1/2011	9/1/2100	Jim Frasier				X				X				X				X
	2B.6	Update the AM-POS Component Implementation Assessment scales	New Scales	7/1/2011	9/1/2100	Jim/Janet				X				X				X				X
	2B.7	Revise the Baseline Assessment Report data analysis and report format	Report Format	7/1/2011	9/1/2100	Jim Frasier				X				X				X				X
	2B.8	Update the Local AM-POS Assessment Guide for LPTs	Assessment Guide	7/1/2011	9/1/2100	Jim/Julie				X				X				X				X
	2B.9	Update/rise the Local Assessment Guide resources on the WAMPEN website	Website Changes	7/1/2011	9/1/2100	Julie Durham				X				X				X				X
3	3	**Disseminate pilot year and annual WAMPEN progress and evaluation information.**																				
	3.1	Prepare presentation for national conferences		4/15/2011	9/39/2011	SLT			X				X				X				X	
	3.2	SLT review of initial presentation materials		4/15/2011	9/30/2011	SLT				X				X				X				X
	3.3	Deliver national conference presentations	Presentations	4/15/2011	9/30/2011	SLT and LPT				X				X				X				X
	3.4	Prepare POS research and policy briefs for website		4/15/2011	9/30/2011	SLT			X				X				X				X	
	3.5	SLT review of briefs		4/15/2011	9/30/2011	SLT				X				X				X				X
	3.6	Publish Briefs on WAMPEN website	Research and Policy Briefs	4/15/2011	9/30/2011	SLT				X				X				X				X
	3.7	Prepare articles for research and professional journals		4/15/2011	9/30/2011	SLT and LPT			X				X				X				X	
	3.8	SLT review of manuscripts		4/15/2011	9/30/2011	SLT and LPT				X				X				X				X
	3.9	Submit manuscripts for publication	Journal Manuscripts	4/15/2011	9/30/2011	SLT and LPT				X				X				X				X

e205

Attachment M

Organizational and Institutional Capacity

Adequacy of Resources: Description of Participating Partners

Wisconsin Technical College System -- State Board and System Office

As the governing body for the Wisconsin Technical College System (WTCS), the 13-member State Board establishes statewide policies and standards for educational programs and services provided by the state's 16 technical colleges. Each technical college serves a geographical area referred to as a district. Districts have nine-member appointed boards and are empowered to levy property taxes to fund the cost of instruction, facilities, equipment and staff. The technical colleges equip graduates with real world, hands-on experience these graduates apply to specific occupations and stimulate local economic development by providing a well-educated workforce based solely on the occupational needs of local business and industry. The colleges offer more than 300 programs providing: two-year associate degrees; one- and two-year technical diplomas; short term technical certificates (nine months or less); and customized training and technical assistance (direct to business and industry).

The work of the State Board is carried out by approximately 60-person staff in the System Office housed in a state office building in Madison, WI. The System Office is led by the system President appointed by the State Board, his executive assistant, and two vice-presidents and is organized into two divisions. The Division of Teaching and Learning provides leadership and administrative oversight for the development and delivery of technical college educational programs, student services and assessment, economic development and adult basic education. The Division of Finance and Administration is responsible for the System Office's internal operations including accounting, budgeting, procurement, payroll, human resources, facilities, information technology; system wide data collection and management information systems; guidance to the technical colleges in developing financial policies and standards, distributing state aid, determining student fees and tuition rates, certifying district education personnel, and approving district facility development proposals.

The State Board's strategic directions, adopted in September 2008, guide the work of the System Office staff to pursue actions that: (1) Promote pathways to address Wisconsin's need for a qualified workforce; (2) Support academic success for all students; (3) Promote effectiveness and efficiency measures that help maintain affordability; and (4) Foster system wide and regional collaboration.

These strategic directions are consistent with the effort that System Office staff would pursue if this proposal is funded as are the State Board's four postsecondary priorities for the allocation of Perkins IV funds and effort as described in the Five-Year Perkins Plan: (1) Strengthen Career and Technical Education Programs; (2) Achieve Student Success; (3) Assure Access and Participation in Nontraditional Training Occupational Employment; and (4) Promote and Support High School to College Transitions for Career and Technical Education Students.

Primary members of the STL from the System Office include the education directors for Manufacturing and Engineering and for Tech Prep. Among other duties, these individuals work with the colleges to obtain State Board approval for new instructional programs and course curriculum, conduct program audits, assist with program improvement, and oversee the development of systemwide program curricula. They also provide systemwide leadership for program articulation and transfer agreements with other colleges and universities, technical skill attainment and programs of study development. In addition, the State Leadership Team will draw upon the expertise of System Office staff responsible for systemwide data collection and processing and for program evaluation as needed.

The System Office annually administers appropriations totaling $184.3 million. Of this, nearly 25% or $33.5 million are federal funds (primarily Perkins VI and AEFL Acts). The bulk of these funds are distributed as state aid and special purpose grants to support the educational programs and services of the technical colleges. The operations of the System Office are supported by a combination of more than $4.5 million in state support and $4.0 million in federal fund leadership and administrative funds.

Finally, the State Board is the sole State agency authorized to administer or supervise the administration of the State career and technical education program under Perkins IV. While retaining overall responsibility for administration of Wisconsin's Perkins funding and the postsecondary and Tech Prep portions of the program, the State Board delegates responsibility for the administration, operation and supervision of Perkins at the secondary level to the Wisconsin Department of Public Instruction (DPI). Primary responsibility for administration and leadership of the secondary portion of the program rests with the state Superintendent of Public Instruction and the DPI.

Wisconsin Department of Public Instruction

The Wisconsin Department of Public Instruction (DPI) is the state education agency. It provides direction and technical assistance for public elementary and secondary education in Wisconsin. The department offers a broad range of programs and professional services to local school administrators and staff. It distributes state school aids and administers federal aids to supplement local tax resources, improves curriculum and school operations, ensures education for children with disabilities, offers professional guidance and counseling, and develops school and public library resources. DPI is housed in a state office building in Madison, Wisconsin. DPI is responsible for administering an annual budget of $6.5 billion. Of this, approximately 17.5% or $1.2 billion are federal funds to support the state's education program. State leadership operations are funded with a combination of state, federal and other funds totaling $101.1 million and DPI employs about 650 FTEs in total.

DPI is headed by the State Superintendent of Public Instruction, a nonpartisan, elected constitutional officer who is directly responsible to the people of the state for the supervision of elementary and secondary public education. The state superintendent appoints a deputy state superintendent and assistant state superintendents. The assistant superintendents are responsible for administering the operating divisions of the department.

For secondary programs under Perkins IV, DPI established the following as state priorities for state leadership and local funding: (1) Establishment of programs of study including existing program improvement/expansion, development/implementation of new programs, and increasing the rigor of work-based learning programs; (2) Provision of Special Populations Activities and Support Services focused on improving student performance affecting secondary Perkins IV accountability; (3) Expansion of Nontraditional Occupations (NTO) Career Awareness and Exploration; Participation and Completion; and (4) Revision of Career Guidance and Development based on the new Wisconsin School Counseling Model.

Primary members of the State Leadership Team for the proposed project from DPI will include the School Consultants for Technology and Engineering Education and for Career Pathways. In addition, the State Leadership Team for the project will draw upon the expertise of DPI staff responsible for state-level data collection and processing as needed. The 26-person Bureau of Career and Technical Education within the Division for Academic Excellence provides leadership for the state's secondary program for Perkins IV including efforts to design, implement, and continuously improve POS and measure technical skill attainment and the proposed activities of the State Leadership Team members are consistent with the state's Perkins IV priorities. The bureau is also responsible for providing school districts with assistance with curriculum development, developing and implementing technical skills standards, instructional methods and strategies, including web-based education programs and professional development related to career and technical education.

Center on Education and Work and Wisconsin Center for Education Research, University of Wisconsin-Madison

Located within the highly ranked School of Education at the University of Wisconsin–Madison, the Center on Education and Work (CEW) is in its 46th year of operation. CEW's portfolio of research projects, evaluation studies, and program improvement initiatives aim to produce new knowledge and effective practices that strengthen learning and career development outcomes in and across education, workplace, family, and community settings.

Currently, three strategic priorities guide CEW's work: (a) developing and documenting innovative approaches for integrating career-related learning, instruction, and assessment strategies, (b) developing technology applications and comprehensive support systems that ensure all learners have access to equitable opportunities, and (c) strengthening the capacity for systemic-level inquiry and innovation through leadership and professional development programs, policy analysis, and evaluation. CEW's two outreach units provide value-added services and resources to Wisconsin, national, and international audiences and organizations.

The Wisconsin Careers group has a 34-year history of serving youth, adults, and professionals with quality, web-based career development resources. Two portals serve both students and professionals in schools, colleges, and workforce development centers throughout Wisconsin and the nation. During 2008–09, the portals provided access to labor market, career, and postsecondary information for more than 10 million logins. The portals provide users a wealth of assessment tools and detailed career exploration and planning information for 16 career clusters, 78 pathways including more than 700 occupations, and programs of study in approximately 3,400 postsecondary education institutions across the U.S. Recently, the Wisconsin Careers group was selected by a prominent ministry of education in Asia to design, test, and support a comprehensive education and career guidance portal for national

use. Faculty member, graduate and undergraduate students, and local innovation teams utilize the data-rich portals to conduct research and evaluation studies examining students' career decision making, career self-efficacy, and other variables and to assess the effects of career education focused interventions and programs.

The Careers Conference and Professional Development team sponsors a major national conference each February, which is attended by 1,200–1,500 professionals. The Careers Conference examines best practices, recent research, and new career-related education and training initiatives. The Career Development Facilitator certification program (in collaboration with the National Career Development Association) and a series of summer institutes are also operated by CEW. CEW's publications unit distributes center research papers and career-related curriculum materials to high schools and postsecondary institutions worldwide.

CEW is housed within the Wisconsin Center for Education Research (WCER) and benefits from its many services. One of the nation's oldest and most highly esteemed university-based education research and development centers, WCER provides a productive environment where scholars conduct basic and applied education research and development.

WCER research spans the full scope of education, from elementary education to undergraduate and graduate curriculum reform. With annual outside funding exceeding $30 million, WCER is home to centers for research on the improvement of mathematics and science education from kindergarten through postsecondary levels, the strategic management of human capital in public education, and value-added achievement, as well as the Minority Student Achievement Network and a multistate collaborative project to develop assessments for English language learners. Other WCER projects focus on leadership, special education, teacher professional development, social capital and children's development, and education technology, among other topics. WCER also hosts a training program for social science doctoral students conducting research on education. Although most of WCER's research has a national focus, attention to local and global contexts is also found in the center's portfolio.

WCER occupies eight floors of the 13-story educational sciences building, a facility built with matching state and federal funds and dedicated to education research and development. WCER's Business Office provides projects with budgeting, forecasting, accounting and financial management, and human resource management. WCER offers copy and mail services at cost. A professional editor provides pre-award editorial support and other grant administration services, maintains a grant notification service, disseminates research through a working paper series, and offers guidance on human subjects compliance. A public information specialist further disseminates research findings through a variety of print and electronic media, including the WCER Web site (www.wcer.wisc.edu/), a quarterly newsletter (*WCER Research Highlights*), a monthly electronic newsletter (*WCER Today*), podcasts, the university news service, and the national media.

The WCER Technical Services Department provides multimedia services, custom software development, and computer support for more than 350 networked computer systems. Data warehousing and network operations are supported by more than 25 servers including an active-active cluster of two data warehouse servers running Enterprise MS-SQL 2005 on a Windows 2003 Advanced Server. Technical Services supports multiple graphics and video workstations that facilitate the integration of computer and multimedia technologies. In addition, the department includes a state-of-the-art multimedia studio staffed by multimedia artists, animators, and programmers. In support of collaborative research, WCER has deployed an enterprise-level Web-based collaborative environment to support distributed work across complex partnerships. This environment facilitates data sharing and is backed up by a relational database for tracking and reporting project activities and project outputs and monitoring project status.

CEW and WCER are based in the UW-Madison School of Education, which is consistently ranked one of the top schools of education in the country. *U.S. News & World Report*, in the 2010 edition of its guide to the best graduate schools of education, ranked the UW-Madison School of Education seventh in the nation (tied with four other universities); in the specialty rankings, the School of Education came in first in curriculum and instruction and educational psychology; second in administration/supervision, counseling/personnel services, elementary education, and secondary education; third in education policy; and ninth in special education.

The University of Wisconsin–Madison is recognized throughout the world as one of the great U.S. universities. Founded in 1848, UW-Madison is the flagship campus of the University of Wisconsin System and the original 1862

land grant university in Wisconsin. It continues to be Wisconsin's comprehensive teaching and research university with a statewide, national, and international mission. The university's academic reputation has been rated among the top 10 in the country in many areas of study since the beginning of the last century. *U.S. News & World Report* currently ranks UW-Madison ninth among U.S. public universities. It is the nation's third largest research university as measured by dollars spent on research (second largest among public universities), and one of only two institutions ranked among the top five research universities for each of the past 20 years. In every sense, the University of Wisconsin–Madison is a public university. Active in the dissemination of knowledge, the university is guided by the "Wisconsin Idea," which holds that the boundaries of the university are the boundaries of the state and beyond. The university's longstanding partnership with Wisconsin and its citizens is an integral component of its mission to create, integrate, transfer, and apply knowledge. Also central to the university's mission is a commitment to achieve diversity in its faculty, students, and staff and to be responsive to groups that have traditionally been underserved by higher education.

Attachment N

AMP-POS Framework Component #8
Career Counseling and Academic Advisory Services

DRAFTs of Individual Stakeholder Group Instruments

Advanced Manufacturing Program of Study
POS Framework Component #8

GUIDANCE COUNSELING AND ACADEMIC ADVISEMENT

Local Project Team Member Questionnaire

1. *The (insert name of high school or technical college)* guidance counseling and academic advisement services are *(place a check mark in front of your answer from the options below)* based on the Wisconsin Model Academic Standards for School Counseling (see Endnote).

   __ not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

2. The *(insert name of high school or technical college)* guidance, counseling, and advisement professionals *(place a check mark in front of your answer from the options below)* access to up-to-date information to aid students in their decision making about enrolling in a program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

3. The *(insert name of high school or technical college)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer information and tools to help students learn about postsecondary education and career options, including prerequisites for programs of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

4. The *(insert name of high school or technical college)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide resources for students to identify career interests and aptitudes and to select an appropriate program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

DRAFT

5. The *(insert name of high school or technical college)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide information and resources for parents to help their children prepare for college and careers, including workshops on college and financial aid applications.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

6. The *(insert name of high school or technical college)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer Web-based resources and tools for obtaining student financial assistance.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

Endnote: The Wisconsin Model Academic Standards for School Counseling cover the three domains of academic, personal/social, and career development. These standards are based on the American School Counselor Association National Model: *A Framework for School Counseling Programs*, American School Counselor Association, 2003; and The National Occupational Information Coordinating Committee: *National Career Development Guidelines*, 2003. A copy of the Wisconsin Model Academic Standards for School Counseling can be accessed via the internet at http://dpi.wi.gov/sspw/scstudentstandards.html.

DRAFT

Advanced Manufacturing Program of Study
POS Framework Component #8

GUIDANCE COUNSELING AND ACADEMIC ADVISEMENT

Student Questionnaire

1. *The (insert name of high school or technical college)* guidance counseling and academic advisement services are *(place a check mark in front of your answer from the options below)* based on the Wisconsin Model Academic Standards for School Counseling (see Endnote).

   __ not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

2. The *(insert name of high school or technical collete)* guidance, counseling, and advisement professionals *(place a check mark in front of your answer from the options below)* access up-to-date information to aid students in their decision making about enrolling in a program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

3. The *(insert name of high school or technical college)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer information and tools to help students learn about postsecondary education and career options, including prerequisites for programs of study

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

4. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide resources for students to identify career interests and aptitudes and to select an appropriate program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

DRAFT

5. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide information and resources for parents to help their children prepare for college and careers, including workshops on college and financial aid applications.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

6. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer Web-based resources and tools for obtaining student financial assistance.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

Endnote: The Wisconsin Model Academic Standards for School Counseling cover the three domains of academic, personal/social, and career development. These standards are based on the American School Counselor Association National Model: *A Framework for School Counseling Programs*, American School Counselor Association, 2003; and The National Occupational Information Coordinating Committee: *National Career Development Guidelines*, 2003. A copy of the Wisconsin Model Academic Standards for School Counseling can be accessed via the internet at http://dpi.wi.gov/sspw/scstudentstandards.html.

A copy of the Wisconsin Model Academic Standards for School Counseling is also available on the table in the front of the room.

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Advanced Manufacturing Program of Study
POS Framework Component #8

GUIDANCE COUNSELING AND ACADEMIC ADVISEMENT

Local AMP-POS Advisory Committee Member Questionnaire

1. *The (insert name of high school or technical college)* guidance counseling and academic advisement services are *(place a check mark in front of your answer from the options below)* based on the Wisconsin Model Academic Standards for School Counseling (see Endnote).

   __ not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

2. The *(insert name of high school or technical collete)* guidance, counseling, and advisement professionals *(place a check mark in front of your answer from the options below)* access up-to-date information to aid students in their decision making about enrolling in a program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

3. The *(insert name of high school or technical college)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer information and tools to help students learn about postsecondary education and career options, including prerequisites for programs of study

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

4. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide resources for students to identify career interests and aptitudes and to select an appropriate program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

DRAFT

5. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide information and resources for parents to help their children prepare for college and careers, including workshops on college and financial aid applications.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

6. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer Web-based resources and tools for obtaining student financial assistance.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

Endnote: The Wisconsin Model Academic Standards for School Counseling cover the three domains of academic, personal/social, and career development. These standards are based on the American School Counselor Association National Model: *A Framework for School Counseling Programs*, American School Counselor Association, 2003; and The National Occupational Information Coordinating Committee: *National Career Development Guidelines*, 2003. A copy of the Wisconsin Model Academic Standards for School Counseling can be accessed via the internet at http://dpi.wi.gov/sspw/scstudentstandards.html

DRAFT

Advanced Manufacturing Program of Study
POS Framework Component #8

GUIDANCE COUNSELING AND ACADEMIC ADVISEMENT

External Evaluation Team Member Questionnaire

1. *The (insert name of high school or technical college)* guidance counseling and academic advisement services are *(place a check mark in front of your answer from the options below)* based on the Wisconsin Model Academic Standards for School Counseling (see Endnote).

   __ not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

2. The *(insert name of high school or technical collete)* guidance, counseling, and advisement professionals *(place a check mark in front of your answer from the options below)* access up-to-date information to aid students in their decision making about enrolling in a program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

3. The *(insert name of high school or technical college)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer information and tools to help students learn about postsecondary education and career options, including prerequisites for programs of study

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

4. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide resources for students to identify career interests and aptitudes and to select an appropriate program of study.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

DRAFT

5. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* provide information and resources for parents to help their children prepare for college and careers, including workshops on college and financial aid applications.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

6. The *(insert name of high school)* guidance counseling and academic advisement services *(place a check mark in front of your answer from the options below)* offer Web-based resources and tools for obtaining student financial assistance.

   __ do not effectively
   __ somewhat effectively
   __ effectively
   __ very effectively

Endnote: The Wisconsin Model Academic Standards for School Counseling cover the three domains of academic, personal/social, and career development. These standards are based on the American School Counselor Association National Model: *A Framework for School Counseling Programs*, American School Counselor Association, 2003; and The National Occupational Information Coordinating Committee: *National Career Development Guidelines*, 2003. A copy of the Wisconsin Model Academic Standards for School Counseling can be accessed via the internet at http://dpi.wi.gov/sspw/scstudentstandards.html

A copy of the Wisconsin Model Academic Standards for School Counseling is provided in your External Evaluation Team Handbook.

DRAFT

Budget Narrative

BUDGET NARRATIVE

Attachment 1:
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BUDGET NARRATIVE

1. PERSONNEL

All staff employed at the WTCS State Board and the WDPI are State of Wisconsin professional or classified employees. Their annual compensation and fringe benefits are set by State of Wisconsin policies and procedures.

A WTCS Administrative and Fiscal Services staff member will handle the processing of subcontracts and fiscal accounting and performance reports for the project. Dr. Janet Washbon will be appointed by the WTCS and serve as the Project Practice and Policy Analyst. With two decades of experience as the WTCS Assistant Vice President for Policy, Dr. Washbon has an in-depth understand of the RPOS policy initiative and the Wisconsin's school-to-career programs.

Five lead Consultants/Education Directors from the state education agencies will contribute 10% of their time and effort to the project. Budgeted on State funds, these staff members have duties and responsibilities for providing technical assistance consultation to local education agencies and technical colleges designed assist these organizations in implementing high quality Programs of Study under the Carl Perkins Act. Ongoing WTCS supported projects represent $15,929 of in-kind contributions for year one of the WAMPEN project. The WTCS projects will provide training and support for the utilization of the Wisconsin Career Cluster and Pathway Framework Implementation Guide and the Wisconsin Career Pathway website which support students in programs of study. In years 2-4, the WTCS in-kind contribution will be replaced by increased WTCS and DPI staff time dedicated to the WAMPEN initiative. In addition, the University of Wisconsin will contribute 12% of Dr. Phelps' time as Project Director. The total Non-Federal contribution of personnel time and effort to the project is $107,881 annually (or 30% of the total project costs.)

2. FRINGE BENEFITS

Fringe benefit rates vary by employee classification. The WTCS and WDPI rates are established by the Wisconsin Department of Administration and adjusted annually.

3. TRAVEL

Staff from the WTCS, DPI, and CEW will make approximately six (6) staff trips annually to Washington DC annually to participate in OVAE-called meetings, and to conduct project dissemination presentations at national conferences. In addition, the WAMPEN staff will make 30 2-day, in-state trips each year. These trips will include travel to the WAMPEN sites for local LPT meetings, summer workshops, and to state-wide or regional conferences to disseminate information about the project status and outcomes, and to recruit future local network teams.

6. CONTRACTUAL

To implement the WAMPEN Project, the WTCS State Board will release three contracts annually.

6A. UW-Madison CEW Contract

Personnel

L. Allen Phelps will serve 22% time as the PI and Project Director for this subcontract. Dr. James Frasier will be the Project Evaluator at 50% time. Ms. Julie Durham will assume a 50% appointment to serve as Project Manager. Dr. Frasier's time in the project is reduced in Years 3 and 4, once the baseline assessment procedures are developed and routinely implemented. Additionally, we will recruit and hire a part-time Outreach Specialist in the Senior Policy and Practice Analyst role.

All persons who work regularly for the WCER are placed on the University of Wisconsin payroll in accordance with established University procedures. Titles and stipends are regulated and approved by Center management, the Dean of the School of Education, Madison Campus and University Central Administration. Salaries for professorial, professional, and graduate assistant staff are based on current salaries. Merit increments are calculated each year at 3% effective July 1 for professional staff.

Fringe Benefits

Fringe benefit rates vary by employee classification. Classifications and rates are established by the University. In recent years, fringe benefit rates have increased consistently on an annual basis and are increased slightly for each year following June 30.

Supplies
A minimal amount of $100 has been budgeted each year for supplies needed by the staff to complete the scope of work.

Other
A minimal amount of $50 has been budgeted each year for copying materials.

Indirect Costs
Modified Total Direct Cost (MTDC) is used as the base for overhead calculations. The MTDC base includes all direct charges. The University negotiates with DH&HS Region 5 to establish indirect cost rates. The 48.5% rate used in this proposal is the approved rate effective July 1, 2010.

6B NTC Local Partnership Team

During Years 1 and 2 a subcontract will be developed to support the project participation costs at the Northcentral Technical College and three local school districts. In Years 3 and 4, subcontracts will be developed for 2-4 additional regional WAMPEN partnerships in other Wisconsin communities.

Annually each Local Partnership Team will be supported with the following resources:

Local Coordinator			8,500
Release or sub time for LPT Meetings	10 staff, 3 days	125/day	3,750
Honorarium for Summer Inst. Participation	25 staff, 8 days	125/day	25,000
Lunches and Breaks--Summer Inst.	8 days, 25 people	$15/day	3,000
Travel to LPT Meetings			1,000
Miscellaneous			810

The LPT Sub-contracts will vary somewhat each year depending on the number of schools and professional participating.

6C DPI Subcontract

The estimated cost for the WDPI staff to extract the LDP data annually for the Local Partnership Teams will be $8,500.

10. INDIRECT COSTS

The approved indirect cost rate for the WTCS is 3.61% of Total Direct Costs.