Manufacturing Foundations Program

Partner Meeting
8-20-2015

Program Partners

DILLETT MECHANICAL SERVICE

SHARPE PRODUCTS
Custom Pipe & Tube Bending & Fabricating
Architectural Handrail Fittings

DYNATECT
DYNAMIC EQUIPMENT PROTECTION

Manufacturer of custom, precision-machined parts and solutions
A.S. Pindel Corporation
Precision CNC Machining • Swiss Machining • Multi-Spindle Screw Machining

STANEKTOOL

GUHRING
The Tool Company

SUMITOMO
CARBIDE - CBN - DIAMOND

WCTC
waukesha county technical college

WAUKESHA COUNTY
BUSINESS ALLIANCE
Advocate Develop Network Promote

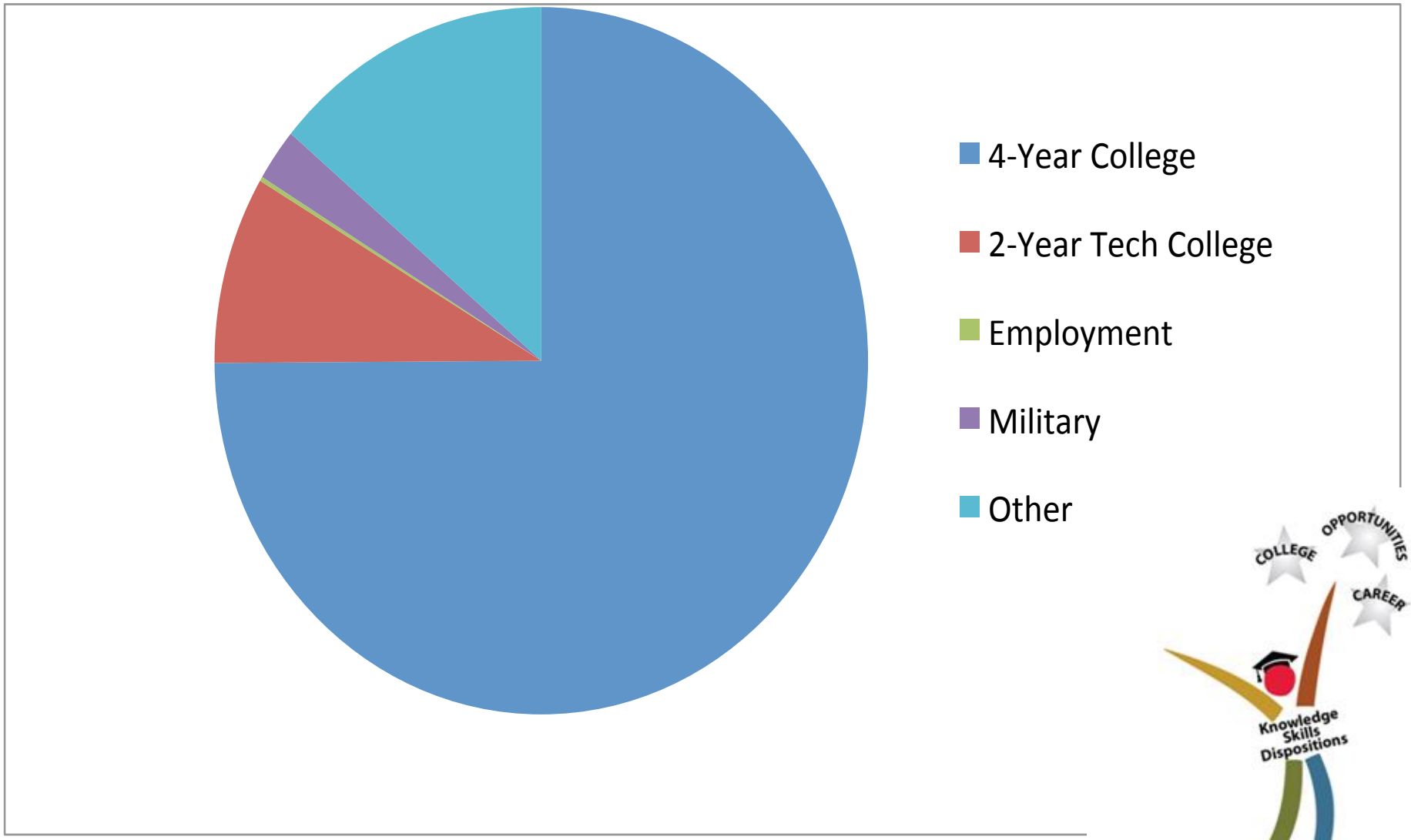
MOVING New Berlin FORWARD
Community • Business • Students

http://www.nbexcellence.org/district/manufacturing-foundations.cfm

Objectives for Today

- Common understanding of program goals
- Common understanding of key program components
- Confirm relevance of program to post-secondary and industry expectations
- Brainstorm and confirm partner roles and time commitment

SDNB Post-secondary Aspirations



DPI District Report Card:
"Exceeds Expectations"

College and Career Readiness Initiative
Case statement, May 2013

***ON AVERAGE**, a 4-year degree will provide lower unemployment and higher wages. However, many students pursue a 4 year degree without an understanding of what they are investing in.*

Average cost at a 4-year public university is $22,261/year[1]

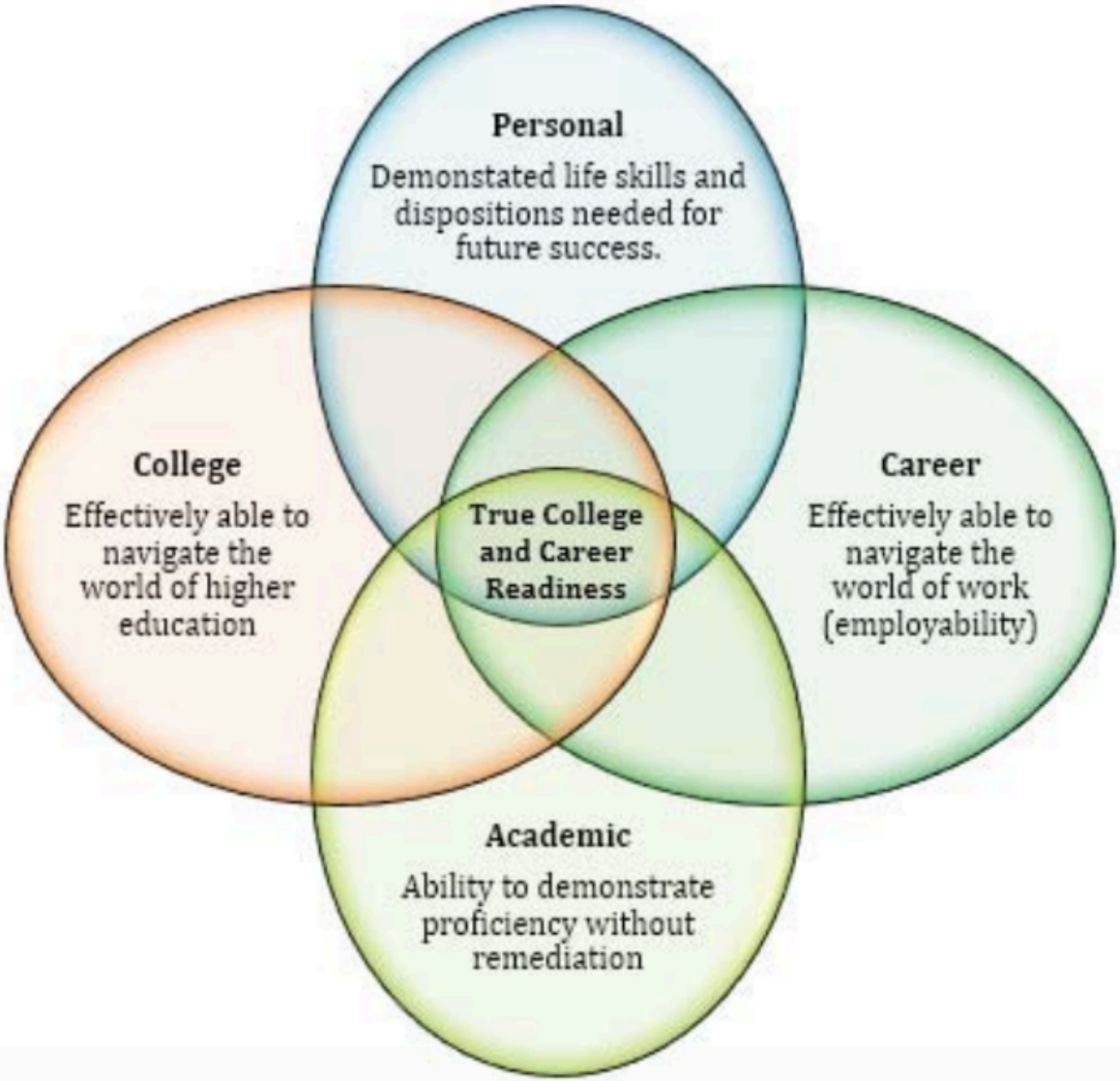
44% do not complete a 4 year degree within 6 years[2]

48% of college graduates are underemployed[3]

Without guidance, the 4 year degree can become the most expensive exercise in self exploration available to students today.

1: College Board Trends in College Pricing 2012
2: National Center for Education Statistics, 2012
3: Center for College Affordability, Jan 2013

College and Career Readiness - SDNB



Key Talking Points

- We strive to provide a rigorous AND relevant education for all students.
- There is a broad range of options in post-secondary education.
- All students can benefit from overcoming both academic and technical challenges.
- Students need to find the “right fit” for college and career. Completion of a post-secondary credential is more valuable than securing admission to college.
- Academic and Career Planning is a critical process requirement.

Key Stakeholders

- Board of Education
- K12 Educators, Administrators, Counselors
- Students and Parents
- Post Secondary Education Providers
- Business and Industry
- Workforce and Economic Development Organizations

Program of Study Focus Group: Fall 2014

Target areas 2014-15:

- Manufacturing, IT/Computer Science, Health Care

General Findings

- Need to broaden exposure to post-secondary programs that lead to high demand careers
- Need to strengthen post-secondary alignment
- Need to embed relevant and rigorous learning experiences in program design

Manufacturing/STEM

Progress 2014-15

- Grade 7 Technical Elective Wheel
  - Computer Science, Graphic Art Design, and Engineering
- Expanded Project Lead The Way electives
- Development of Construction II curriculum
- Career Days
- Industry Tour
- Academic and Career Planning
- Chartered Manufacturing Foundations Program (subsidized via Department of Workforce Development: Fast Forward Grant)

Manufacturing Program Objectives

- Broaden understanding of the manufacturing industry as a whole. Students will understand how products across industry sectors are designed, engineered and produced.
- Broaden exposure to career opportunities in the Manufacturing and/or STEM Programs of Study.
- Provide opportunity to earn industry credentials.
- Prepare students for entry level positions in manufacturing environments while they continue their education.
- Provide guidance on post-secondary education pathways that support student goals.
- Provide industry mentorship and support to enrich on-site learning experiences and inform Academic and Career Planning.

Manufacturing Foundations: Related Instruction

- Manufacturing materials, processes, equipment and technologies
- Systems design and troubleshooting
- Production planning and systems design
- Continuous improvement, product inspection, troubleshooting
- Supply chain management
- Labor market information
- Post-secondary education and careers

Manufacturing Foundations: Skills and Dispositions

- Collaboration
- Communication
- Problem Solving
- Critical Thinking
- Goal Setting, Action Planning
- Employability

http://www.nbexcellence.org/district/graduate-vision.cfm

Manufacturing Foundations: Industry Credentials

SDNB is a MSSC Approved Test Site

- MSSC Safety Certification (2014-15)
- MSSC Quality Certification (2015-16)

Student Objective: To understand the value of and requirements for acquiring industry certification. While not part of the program, interested students will be encouraged to independently prepare for the remaining certs to earn a CPT (Certified Production Technician) designation.

Manufacturing Foundations: Related Career and Technical Student Organizations (CTSOs)

- FIRST Robotics
  - Design, build, and program a semi-autonomous robot
- New Berlin Schools Vintage Race Team
  - Disassemble, repair, upgrade, and reassemble vintage motorcycles
- Skills USA (investigating)
  - Automated Manufacturing Technology, CNC Milling Specialist, CNC Technician, CNC Turning Specialist, Robotics and Automation Technology, Welding, Welding Fabrication, Welding Art

Manufacturing Foundations: Post-secondary Alignment

- Registered Apprenticeships (need guidance)
- Credit for Prior Learning, CLEP (needs to be explored)
- Related WCTC transcripted credit coursework (on-site)
- Youth Options/Course Options
- Project Lead The Way
  - Advanced standing: WCTC
  - Transcripted credit: MSOE (does not always transfer)
- WCTC Dual Enrollment Academy: Welding, Printing and Publishing, CNC/Tool & Die
- Post-secondary articulation agreements (reduces time to complete a degree)

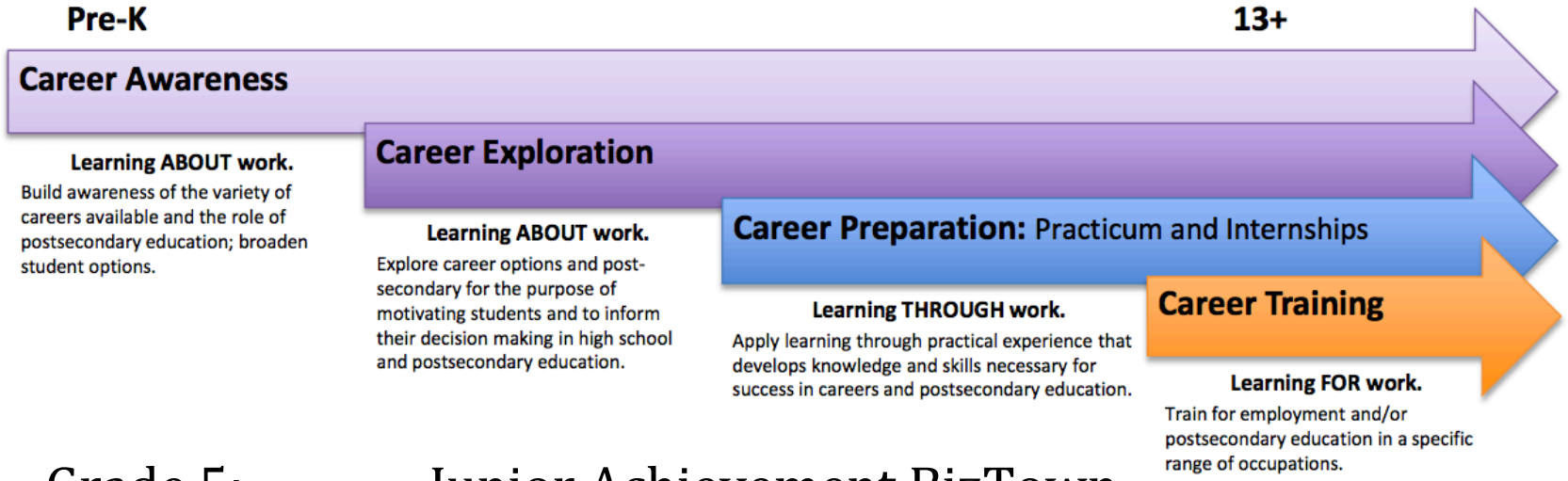
Manufacturing: Experiential Learning

Provided through Career and Service Learning Program:

- Job Shadows and/or Industry Tours
- Mentorship (unpaid, 40 hours)
- External Internship* or Youth Apprenticeship

** Eligible for WI DPI employability certificate*

Career & Service Learning "*Continuum*"



- Grade 5: Junior Achievement BizTown
- Grade 7: Career and Communications
- Grades 7-12: Expanded Electives (internal/external),
- Grades 7-12: Career and Technical Student Organizations
- Grades 8-12: Career Days, Job Shadows, Industry Tours
- Grade 9: Personal Finance "Foundations"
- Grade 10: Employability "Foundations"
- Grades 10-12: Experiential Learning (WBL, credentialing)
- Grade 12: Personal Finance "Capstone"

Expect Excellence
School District of New Berlin

EACH STUDENT'S ACADEMIC & CAREER PLAN DOCUMENTS HIS/HER UNIQUE:

COURSE PLAN
Course Selections, grades 7-12 Programs of Study

SERVICE LEARNING EXPERIENCES
(Community Service, Volunteer Efforts)

CO-CURRICULAR ACTIVITIES
(Clubs, Athletics, Arts)

CAREER/WORK BASED LEARNING EXPERIENCES
(Jobs, Co-ops, Internships, Youth Apprenticeships)

PROGRAMS OF STUDY & CAREER PATHWAYS OF INTEREST

ASSESSMENT RESULTS
(WKCE, ASpire, PSAT, ACT, WorkKeys, AP)

LEARNING STYLES PERSONALITY TRAITS

CREDENTIALS

WORK VALUES & WORK SKILLS

POTENTIAL POST-HIGH SCHOOL EDUCATION OPTIONS
(tech school, 2-year college, 4-year college, Speciality School, apprenticeship, work, military)

AN ONGOING PROCESS

At each grade level, students will practice goal setting and planning by developing and/or revising their personal Academic & Career Plan with guidance from adult mentors (staff, counselors, parents). This is meant to be a gradual process that builds from one year to the next and supports the unique development of each student. Student goals and plans are expected to change annually based on their personal experiences.

6th

6TH GRADE STUDENT OUTCOMES

- Understand definitions and terms related to the Academic and Career Plan.
- Learn and explore each of the 16 Program of Studys and develop Program of Studys to explore further.
- Develop an initial six year course plan to modify over time.

7th

7TH GRADE STUDENT OUTCOMES

- Complete inventories that help students understand themselves and the concept of a personal brand, and use the inventories to identify potential career interests to explore further.
- Understand how to set academic and personal goals, and use school resources including the Course Offerings to develop a six-year academic plan.
- Understand how to align course selection with potential career interests.

8th

8TH GRADE STUDENT OUTCOMES

- Understand graduation requirements, what makes up a high school transcript and the high school timeline of College and Career Readiness events
- Review the High School Course Offerings to revise the six year course plan, and use the Programs of Study to select courses that support personal goals

9th

9TH GRADE STUDENT OUTCOMES

- Update personal inventories to identify any key changes that could affect goals or plans.
- Be exposed to the concept of "post-secondary alignment," available opportunities and financial planning that supports post-secondary.

10th

10TH GRADE STUDENT OUTCOMES

- Conduct structured research on potential careers.
- Identify roles and responsibilities, skills and dispositions, education/training needed for identified careers.
- Understand how to research job opportunities, create and use a network to find employment, and leverage labor market projections to assess future job opportunities.
- Learn how to create a resume and understand the importance of building resumes over time.
- Learn about Career and Service Based Learning Opportunities.

11th

11TH GRADE STUDENT OUTCOMES

- Understand how to evaluate post-secondary opportunities, do a college search, and locate and complete a college application.
- Review assessment results and how they support post-secondary choices.
- Understand financial implications for alternative post-secondary options along with resources available.

12th

12TH GRADE STUDENT OUTCOMES

- Develop a financial plan to support post-secondary transition.
- Ensure their Academic and Career plan and related documents accurately reflects all honors, credentials, endorsements, etc. that comprise their high school portfolio.
- Transition their Academic and Career Plan portfolio elements to ensure access after graduation.

ACP Process Lessons

Developed by Counselors
Delivered by Teachers
Advisory Period
Small group instruction
1x1 followup as needed
ePortfolio

Manufacturing Foundations: Identified Barriers to Participation

- Perceived Value

  The Academic and Career Planning process is new. Consequently, many students (and their parents) may not be aware of future opportunities related to this pathway.

  Pre-engineering students may not appreciate the importance of an understanding of the production process to their engineering coursework.

Discussion Questions

1. Does the program provide relevance to inform post-secondary education and future employment? If not, what are we missing?

2. How do you feel your organization could mentor and support Manufacturing Foundations Program participants with the following?
    - Industry Credentials
    - Career and Technical Student Organizations (CTSOs)
    - Experiential Learning (Job Shadows, Mentorship, Internships, YA)
    - Post-secondary Alignment
    - Academic and Career Planning

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Contact Information – Program Supports

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