

2016 - 2017 Final Evaluation

**Nebraska Developing Youth Talent  
Initiative**

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LB 657 (2015)

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Implemented in 2015, LB 257, the Nebraska Developing Youth Talent Initiative (NDYTI), was created to support an industry-defined approach to expose seventh and eighth grade students to occupations within the manufacturing and information technology (IT) industries. By sowing interest in these industries prior to high school, the NDYTI seeks to develop a youth talent pipeline. Over the past two and a half years, several companies have achieved the goal of engaging students in ‘real world’ work environments through the implementation of this program.

Innovation is evolving workforce needs across industries, especially in the manufacturing and IT fields. For instance, by the year 2024, industries that hire those in the IT occupations, occupations critical to most industries, will see an increased need in employees from 19 percent to 32 percent, depending on the specific occupation.<sup>1</sup>

Additionally, manufacturing is the second largest industry in Nebraska. Manufacturing contributes both directly and indirectly over \$29 billion to Nebraska’s annual economy.<sup>2</sup> Looming retirements, public misperception about careers in manufacturing and IT, and needed advanced skill-sets require collaborative efforts on many fronts. This initiative focuses on industry and public school collaborations to create innovative approaches to foster interest and engagement for long-term pipelines.

Eligible applicants are private, for-profit businesses, or a consortium of businesses working in partnership with a public school system. Applying businesses must outline their goals to proactively and creatively consider needs of future workforce and create awareness and excitement among seventh and eighth grade students about those industries.

Criteria to be measured include demonstration of the following:

- Impact on businesses, community and students
- Program sustainability
- Evidence of regional workforce needs and relationship of the proposed project to the need
- Clear goals and projected outcomes
- Evaluation plan (using a third party evaluator)
- Budget and project timeline

Since the inception of this program in 2015 and with an annual budget of \$250,000, four businesses and three consortiums have been awarded this grant. They are:

#### 2015-16

- Hollman Media, Kearney \$117,148
- \*Flowserve, Hastings \$120,881

#### 2016-17

- \*Distefano, Omaha \$120,500
- MetalQuest, Hebron \$121,343

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<sup>1</sup> NDOL, Office of Labor Market Information

<https://neworks.nebraska.gov/gsipub/index.asp?docid=440>

<sup>2</sup> US Department of Commerce, Bureau of Economic Analysis; and IMPLAN multipliers

<https://www.bea.gov/iTable/iTable.cfm?reqid=70&step=1&isuri=1&acrdn=2#reqid=70&step=1&isuri=1>

## 2017-18

- Aulick, Scottsbluff \$107,962
- \*Becton Dickinson, Broken Bow \$67,113
- Cyclonaire, York \$74,835

\*denotes consortium

Data is collected by the applicants and independent evaluators. The schools collect data on enrollments, such as increased enrollment in high school classes tied to manufacturing and IT following the DYTl program. It is necessary to include, as appropriate, some qualitative data, as these programs are having an impact in areas that are very difficult to define via the available data.

In addition, pre- and post-surveys are being used to determine perceptions of the manufacturing and IT industries and gauging interest in career possibilities. In part of the program, the surveys also track student involvement in after-school 'clubs' that are formed to enhance interest in manufacturing and IT such as SkillsUSA, Robot Wars, etc.

### Distefano:

The Distefano project experienced some challenges in getting the Science Technology Engineering and Math (STEM) trailer ready to launch and into the schools. While on its surface, this limited the amount of student impact data, it helped to reveal other areas of impact, such as the substantive level of interaction between business and the school to create some deliverables that fully reflect industry demands within a school setting. The following student impact data is based on a soft launch held at Omaha Public Schools (OPS) Career Center late during the 2016-17 school year:

- **An increase in the percentage of students who "agreed" or "strongly agreed" with having a strong knowledge of careers in manufacturing** using pre-course and post course survey results, from 69.23 percent to 100 percent
- **An increase in the percentage of students who "agreed" or "strongly agreed" with having an interest in a manufacturing career** using pre-course and post course survey results, from 53.84 percent to 100 percent

More than 100 hours of direct interaction between business and school partners to coordinate all aspects of this ambitious project and mitigate unanticipated challenges resulted in new high-quality products to encourage and support seventh and eighth grade students' interest and engagement in manufacturing. This includes the **mobile trailer**, and a six and a half **minute virtual reality video**, which "places" students within five different manufacturing occupations. This video responds to the challenge many schools face when confronted with OSHA regulations limiting access to work floors. Last, it includes a **manufacturing curriculum** in the areas of robotics, welding, 3-D printing and virtual reality.

### Flowserve:

Results from a pre- and post-test administered to students taking manufacturing and manufacturing related courses show:

- **An increase in the percentage of students who “strongly agreed” with having a strong knowledge of careers in manufacturing** using pre-course and post course survey results, from 8.68 percent to 12.37 percent
- **An increase in the percentage of students who “agreed” with having a strong knowledge of careers in manufacturing** using pre-course and post course survey results, from 34.73percent to 42.74 percent

\*\*\*\*It should be noted that the percentage of students who reported having a strong knowledge of careers in manufacturing increased from 43.41 percent of students to 55.11 percent

- **An increase in the percentage of students who “strongly agreed” with having an interest in a manufacturing career** using pre-course and post course survey results, from 7.44 percent to 11.59 percent
- **A slight increase in the percentage of students who “agreed” with having an interest in a manufacturing career** using pre-course and post course survey results, from 22.02 percent to 22.10 percent
- The increase in the percentage of students who are interested in a manufacturing career (from 42.17 percent to 54.33 percent) is a very encouraging statistic that directly relates to the program’s overall goal of developing a talent pipeline in manufacturing.
- **A 15 percent increase was experienced in the number of students who registered in ninth grade Skilled and Technical Sciences (STS) courses.** This includes 151 students who took STS courses in 2016-17 to 175 students registered for STS courses in 2017-18 (note: actual enrollment may change).
- A slight increase in the number of females taking ninth grade STS courses from 18 in 2016-17 to 19 (registered) in 2017-18.
- Industry involvement in the classroom **increased substantially during the past year from zero hours (baseline) of industry involvement to 35 hours.** While the 35 hours fell short of the outcome targeted in the grant proposal, it does represent a significant increase. The middle school had no contacts at industry prior to the grant. A retired industry leader has stepped forward to coordinate additional industry tours, field trips and guest speakers for this year.

During post-program interviews with the teachers, one of the instructors said directly that in 23 years of teaching, “this is the best year I have had of teaching.” This was attributed to (1) the new full-year course for seventh and eighth grade and (2) the new equipment, which supported more hands-on, project-based learning.

#### **MetalQuest:**

Sandy Creek School’s first year was in the process of building out and creating space and course work for Middle School students in conjunction with MetalQuest’s advice and input. An exploratory manufacturing-STEM course was designed for sixth and seventh graders with a manufacturing course for eighth graders to immerse them more into hands-on activity. After a semester of safety courses, all eighth graders are on machines with sixth and seventh graders taking the safety and STEM coursework in preparation for the manufacturing course work. Pre-surveys are being conducted and post-surveys will be done at the end of this school year. This program highlights

the scarcity of Career and Technical Education CTE instructors across the state as they worked with Central Community College (CCC) to provide instructors as they launched, then the criticality of industry/education was highlighted when MetalQuest provided employees to teach these courses until a full-time instructor was hired.

**Hollman Media:**

Curriculum designed in the initial year of this project continues to be in use at the Kearney Public School (KPS) Middle School. Hollman Media continues to work with the curriculum and assessment director of KPS to make adjustments as they move forward to revamp core curriculum and not lose this innovative program's momentum.

**Recommendations for Nebraska Developing Youth Talent Initiative**

- Continue funding this program. Program provides a bridge between middle school and high school programs aimed at developing manufacturing and IT talent pipelines.
- Explore the expansion of eligible industries since there is a need to develop youth talent pipelines in other industries.