



Staffing up Programs that Work:
Strengthening
Career & Technical Education (CTE)
in New Jersey

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University- State Tri-Agency Partnership Committed to Continuous Evaluation

- Our story is about a long-term, university-state tri-agency partnership to continuously improve education and training programs in New Jersey.
 - New Jersey Education to Earnings Data System (NJEEDS) empowers policymakers to understand the impacts of policies on students' postsecondary college & career outcomes.
 - Supporting the success of NJEEDS is the long-term partnership among the Heldrich Center (HC) and each of the three state agencies:
 - The New Jersey Department of Education (DOE)
 - The Office for the Secretary of Higher Education (OSHE)
 - The Department of Labor & Workforce Development (LWD)
- Using NJEEDS, the partnership can chart a consistent course toward long-term, continuous improvement, making the most of the “ebb and flow” of grants and special initiatives.
- Using NJEEDS, this partnership allowed NJ DOE to study and improve CTE programs in the state.

Leveraging WDQI & SLDS Grants to Build NJEEDS, Securing a State Appropriation to Sustain It

Building the P20W: In the 2012-2016 period, the Heldrich Center partnered with the three state agencies to build a comprehensive, individual, longitudinal administrative records dataset including:

- High School student academic performance and completion records
- College enrollment, academic performance, and completion records
- Unemployment Insurance Wage records of all-covered employment and earnings

Leveraging Two Federal Grants: This work was supported by two extraordinarily complementary federal grants:

- DOE SLDS 2012
- DOL WDQI 2012 & 2014

Record Linkage: In the Spring of 2016, Heldrich Center researchers produced a paper describing how they were able to match 82 percent of individual NJ high school records to college and career outcomes, even without a common identifier, by using the NJ Motor Vehicle Commission database.

Sustaining the NJEEDS with an Annual State Appropriation: In the Summer of 2017, Rutgers University and each of the three state agencies signed a five-year data sharing agreement, which was supported by an initial State annual appropriation of \$500,000.

1. Career & Technical Education (CTE) in NJ: An Early Win for the NJEEDS



- Service-rich environment
 - 3 delivery systems, 130 schools, & nearly 200,000 students*:
 - 21 County vocational schools, serving 31,091 students.*
 - 90 Comprehensive high schools, serving 45,673 students.*
 - 19 County colleges, serving 118,225 students.*
- Comprehensive program re-approval process
 - Established in 2005 in response to Perkins IV
 - NJ Office of Career Readiness (OCR) already thinking hard about which programs to trim and which programs to grow.
 - Over 500 programs eliminated in the 2012-2015 period.

* In the 2014-2015 school year.

2. J.P. Chase Morgan Chase Planning Grant: Quantitative Analysis of CTE Programs & Teacher Resources



- OCR and the Heldrich Center produce a comprehensive implementation plan, addressing 6 questions:
 - **Target Programs**
 - Identified 68 target programs leading to high-paying jobs in demand industries
 - **Access**
 - **Participation and Completion**
 - **Staffing**
 - Many current CTE teachers will be retiring in the next 5-10 years.
 - Acute shortage of teachers in STEM.
 - **Student Trajectories**
 - **Stakeholder Experience**

3. Assessing the Teacher Shortage



- Listening: OCR conducted focus groups with CTE administrators to validate and better understand the CTE teacher shortage problem.
 - Strong consensus about the problem—teacher shortages in target programs.
 - Costs (time, commute) of alternative certification is often prohibitively expensive.
 - Recommendation to allow professionals to teach CTE part-time.

4. Responding to the Teacher Shortage



- **Resources:** OCR wins \$800K Teacher Pathway Initiative grant to recruit professionals in demand industries as CTE teachers.
 - *The data from the Heldrich Center analysis proved critically important. Knowing the median age of CTE teachers by key industry career clusters helped us to pinpoint recruitment efforts and make the case to win resources for the TPI initiative. -Marie Barry, Former Director Office of Career Readiness*

5. Implementing the Teacher Pathway Initiative (TPI)



- Early Implementation: 3 Components:
 - CTE Teacher Bridge: equips general ed. teachers to become CTE teachers by:
 - Obtaining an industry-valued credential
 - Participating in a paid summer industry externship
 - Working with a CTE teacher mentor
 - Industry Fellows Program: equips industry experts to become CTE teachers by:
 - Reimbursing participants' licensing and certification costs
 - Allowing participants to satisfy 100-hour classroom requirement part-time, while keeping their full-time jobs
 - Working with a CTE teacher mentor
 - Marketing Campaign: solicits interest from districts and prospective teachers

6. Second-stage decision-relevant research questions



- Implementation Questions:
 - How effectively do the newly recruited CTE teachers fill the need?
 - What combinations of teacher, district, and subject characteristics are associated with sustainable and effective service?
 - Can we use administrative records to identify promising matches of prospective teachers and districts?
- “Need Assessment” Questions:
 - Which types of CTE programs work best for whom in terms of college and career outcomes?

Lessons of the OCR CTE effort...

CTE is a natural audience for P20W systems: P20W systems like NJEEDS are especially valuable to CTE programs, responsible to bridge the gap between K-12 and career.

Seasoned administrators reforming service-rich systems are best prepared for early wins: CTE administrators in *service rich* environments and *already on the path to reform* are well prepared to learn from P20W systems, in part because they know what they need to know.

Collaborative, persistent epistemic communities achieve change: Strong university-state partnerships committed to continuous data-driven decision-making can chart a consistent course, tacking across the shifting winds of initiatives and grant opportunities.

Building evidence and building consensus go hand-in-hand: Building policy evidence entails a lifecycle of grounded research – starting with questions of relevance from administrators, conducting rigorous quantitative analysis, validating and clarifying in dialogue with field-level program administrators, and implementing responsive, feasible adjustments.

Sustaining the NJEEDS across administrations...

- **Christie Administration (2010-2018):**
 - Tri-agency partnership formed to leverage DOE SLDS (2012) and DOL WDQI (2012 & 2014) grants.
 - Process for linking records across systems established and validated.
 - Five-year, tri-agency data sharing agreement signed.
 - Initial state appropriation of \$500,000 to support the initiative.

- **Murphy Administration (2018-):**
 - Transition team reports call for data-driven decision-making informed by NJEEDS.
 - Second, annual state appropriation of \$500,000 along with contributions from partner agencies.
 - Senior Commissioner-level data governance committee established.