Career Education in Nebraska Public Schools

Prepared under contract to
Nebraska Department of Education

Amanda Richards Sheil
Jessica Robles
RTI International

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Contents

Introduction

The mission of the Career Education division of the Nebraska Department of Education (NDE) is to provide a career education (CE) system for all Nebraskans that develops the knowledge and skills needed for lifelong learning, earning, and living. CE engages students and prepares them for the next stage of their education or career by connecting core academics with relevant content and experiences. It also promotes collaboration among schools, businesses, and local communities to develop a skilled workforce that will sustain and grow Nebraska business and industry (Nebraska Career Education n.d.).

In 2013, the Nebraska state legislature issued Nebraska Legislative Resolution 285, requiring a select committee to study CE programs in Nebraska public schools and report its findings and recommendations to the legislature.

NDE retained RTI International to assist NDE and the committee in reviewing Nebraska CE programs. This white paper supports the committee's work by addressing topics that are foundational to the committee's deliberations and providing recommendations for state CE leaders as they strive to strengthen Nebraska's CE system.

Resolution 285 asks the select committee to examine:

- The purpose, role, and mission of career education programs.
- The prevalence of and need for CE programs in middle and high schools.
- The funding for CE in middle and high schools and typical costs.
- Teacher availability for CE courses.
- The status and role of career guidance.
- The alignment of secondary and postsecondary CE curriculum and entrance requirements.
- The projected types and numbers of skilled workers Nebraska will need now and in the future.
- The role of labor organizations in CE programs.

SOURCE: NE LR285.

Assessment Method

This study was a rapid assessment of several items the committee was asked to investigate. RTI worked with NDE staff to understand Nebraska programs, goals, and future priorities and consulted with career education partners to collect their perceptions and ideas. This assessment had three phases:

- Stakeholder Interviews—The team conducted interviews with NDE staff, legislators, district superintendents, school principals, guidance counselors, Nebraska Board of Education members, community college

administrators, Department of Labor staff, and representatives of businesses and Chambers of Commerce. Interviews sought to learn stakeholder perspectives on the topics identified by the legislature and were conducted in person on September 18–19, 2013, and by telephone in September and early October of 2013. The project team summarized interview responses and categorized them into themes.

- Document Reviews—The project team collected and reviewed extant information relating to NE LR285, the themes identified through the interviews, Nebraska's career education system, the CE systems of other states, and national initiatives. Resources included federal, state, and local legislation and regulations; published research reports; policy briefs; media reports; presentations; public data reporting systems; and websites.
- Strategies and Recommendations—The project team compared preliminary themes from the document review and interviews to identify 1) current initiatives and approaches being implemented or discussed by Nebraska CE partners and 2) issues of concern to the CE community. The current initiatives were refined into six key strategies that Nebraska has adopted in support of CE. RTI investigated the issues of concern within the literature and developed a refined list that became the report recommendations, which are intended to support the six key strategies. The sub-recommendations reflect findings in the research literature, promising practices in other states, and national initiatives.

Because the project was designed to be a rapid assessment of Nebraska CE, this white paper therefore cannot adequately represent the depth and breadth of the work being undertaken in the state. Further, although career education is a system extending from early childhood through adulthood, this assessment focuses primarily on education ranging from public kindergarten through 12th grade. More study is needed of CE initiatives and efforts in public and private postsecondary education.

Summary of Strategies and Recommendations

Nebraska's CE system supports student achievement, prepares students for further education and careers, helps to build a knowledgeable and prepared workforce, and promotes economic development. The white paper describes six strategies that Nebraska is pursuing in support of CE and provides recommendations, summarized briefly here, that are intended to strengthen those efforts.

Strategies and Recommendations to Support CE in Nebraska Public Schools

1. Expose Students to Careers at an Early Age	
1.1. Encourage systemic Implementation of the Nebraska School Counseling Model	a. Update the NDE School Counseling website to describe the information and available resources more clearly and effectively.
	b. Provide state guidance to encourage and assist districts and counseling professionals in adopting and implementing the Nebraska School Counseling Model.
1.2. Assess and encourage use of career awareness and exploration tools	a. Establish a confidential process for analyzing student use of the Career Connections website.
	b. Consider requiring school districts to incorporate Personal Learning Plans (PLP) into school counseling programs and implement a technical assistance plan to support schools in using PLPs effectively.
	c. Explore how other states are connecting PLPs across education sectors and into the workforce and determine if such an approach could be adopted in Nebraska.
2. Support Initiatives Integrating Core Academic and Technical Coursework	
2.1. Promote readiness for college and careers	a. Develop strategies to infuse the Nebraska Standards for Career Ready Practice into schools.
	b. Consider assessing career readiness.
2.2. Develop statewide dual enrollment policy	a. Consider establishing statewide dual enrollment agreements for core academic and technical courses that would allow students to earn postsecondary credits in high school that would be accepted by any Nebraska public postsecondary institution.
2.3. Explore expansion of career academies	a. Consider a more direct state role in supporting academies financially.
	b. Determine if additional opportunities exist to braid funds across sources to support career academies.
3. Demonstrate that Multiple Paths Lead to Successful Education and Careers	
3.1. Clarify and expand communication to parents and students	a. Consider developing a comprehensive marketing and communication plan highlighting the benefits of integrated academic and technical programs and opportunities and careers available to students through CE.
3.2. Encourage career guidance and advising that supports opportunities beyond four-year degrees	a. Encourage wider adoption and implementation of the Nebraska School Counseling Model to reinforce efforts to change the career guidance and advising culture and bring awareness to families and communities.
4. Measure and Demonstrate the Benefits of Career Education	
4.1. Identify key career education policy questions	a. Identify key career education policy and research questions and conduct a gap analysis to ensure that relevant data will be available through the state longitudinal data system (SLDS).
	b. Develop online data reports and query options allowing users to generate information easily about questions important to them.
5. Analyze Linked Education and Workforce Data	
5.1. Connect education and workforce data and analysis efforts	a. Explore the feasibility of developing a crosswalk that maps Career Fields, Career Clusters, and Programs of Study; primary industry clusters; and North American Industry Classification System (NAICS) codes for analytical purposes.
	b. Determine how to address geographic differences in the NDE and Nebraska Department of Labor (NDOL) structures.
	c. Define the population of secondary and postsecondary students to be included in the analysis.
5.2. Incorporate labor market analysis into career education program approval and review	a. Develop a standard policy and process for acquiring and analyzing labor market data for program approval and review.
	b. Develop systems and resources for educators to incorporate quantitative labor market data into CE program review and approval processes.
6. Provide Sufficient Resources to Support Effective Career Education Programs	
6.1. Evaluate the costs of career education	a. Conduct an in-depth analysis of the cost of offering CE at all levels of education, including new initiatives that partners may wish to implement.
6.2. Explore incentive funding to align career education programs to workforce and economic needs	a. Consider providing state investments to support education and workforce alignment efforts.

Career Education in Nebraska

Nebraska's 249 school districts, six community colleges, and the University of Nebraska system all offer career education. In 2011–12, more than 60 percent of Nebraska students in grades 7–12 took at least one CE course and about one-third of seniors had achieved concentrator status by taking three or more CE classes in the same Program of Study by the time they left high school (Nebraska Department of Education n.d.–d).[1]

The Nebraska Career Education Model

The Nebraska Career Education Model is a framework for integrated education and career planning that emphasizes career awareness, exploration, preparation, and application (Exhibit 1) (Nebraska Department of Education n.d.–a). The Model organizes the 16 National Career Clusters® into six Career Fields of entrepreneurship and employment based on similarity of knowledge and skills:[2]

- Agriculture, Food, and Natural Resources
- Business, Marketing, and Management
- Communication and Information Systems
- Health Sciences
- Human Sciences and Education
- Skilled and Technical Sciences

Within each Career Field are specific Career Clusters, Pathways, and Occupational Specialties. Through the Model, students can explore the diversity of career options available to them and begin to prepare for their career with plans for secondary and postsecondary education. It also serves as a resource for

[1] A Program of Study is a "coordinated non-duplicative sequence of courses within a Career Cluster that aligns secondary academic and career technical education with postsecondary education and [is] listed as a Nebraska State Model Program of Study" (Nebraska Department of Education, Title 92, Chapter 47; Nebraska Department of Education 2010).

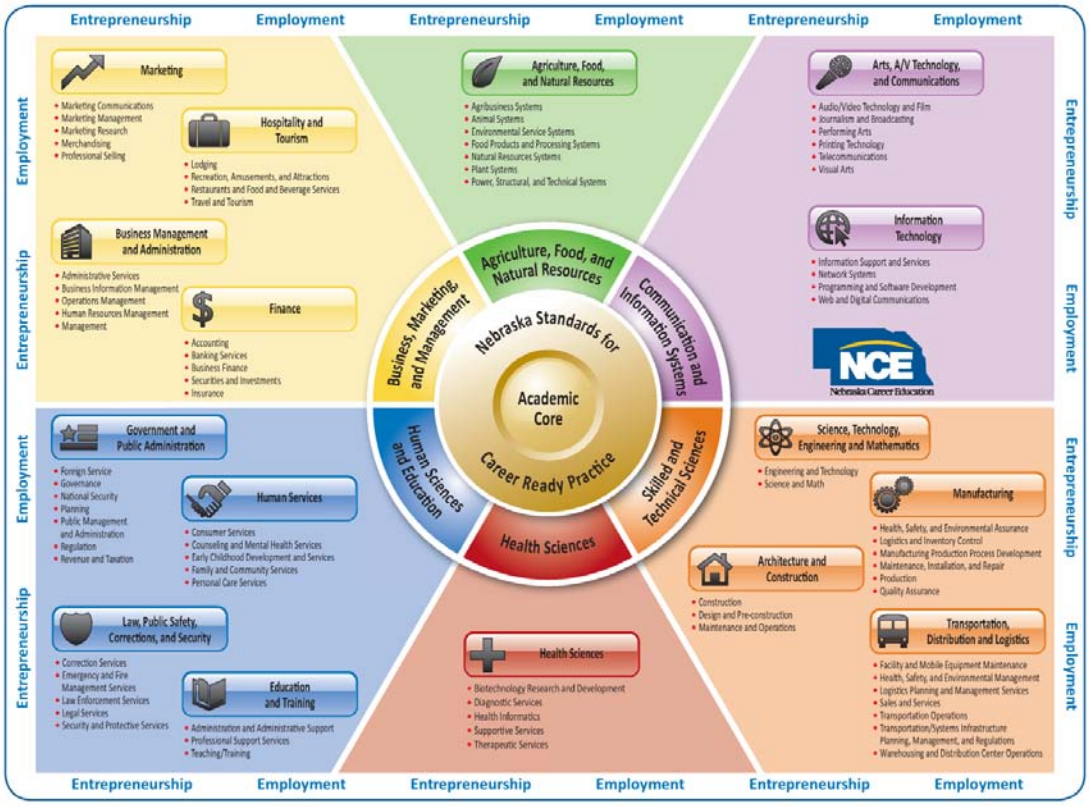
2 For more information about the National Career Clusters Framework®, go to http://www.careertech.org/career-clusters/glance/careerclusters.html.

schools in organizing curriculum into Programs of Study that prepare students for career opportunities in Nebraska's economy.

The Career Education Model is built on a strong academic core required for success in entrepreneurship or employment. The Nebraska Standards for Career Ready Practice are infused throughout to support students in becoming career ready individuals who "capitalize on personal strengths, talents, education and experiences to bring value to the workplace and the community through...performance, skill, diligence, ethics and responsible behavior" (Nebraska Department of Education, n.d.–f).

NDE also worked with education and industry partners to develop standards, benchmarks, and performance indicators that drive CE course instruction and assessment in Nebraska middle and secondary schools.

Exhibit 1. Nebraska Career Education Model



Adapted from NASDCTEc/NCTEF Career Clusters: Pathways to College and Career Readiness. Developed by the Nebraska Department of Education 2012.

In 2012–13, Nebraska school districts offered instruction in all six Career Fields, including exploratory courses in middle school and sequences of courses organized into Programs of Study in high school (Exhibit 2).

Exhibit 2. Number of Districts Offering Instruction in the Six Career Fields: 2012–13

Career Field	Number of Districts Offering in 2012–13
Agriculture, Food, and Natural Resources	184
Business, Marketing, and Management	247
Communication and Information Systems	234
Health Sciences	125
Human Sciences and Education	194
Skilled and Technical Sciences	206

SOURCE: Nebraska Department of Education.

Strategies and Recommendations to Support Career Education in Nebraska

Through the Career Education Model, Nebraska's CE system strives to promote student achievement, prepare students for further education and careers, create a knowledgeable and prepared workforce, and support economic development.

Student Achievement—By engaging students in relevant academic and technical content, career education can help lower dropout rates, promote student success, and lead to better career and earnings outcomes (Kazis 2005; Stern and Stearns 2006).

Readiness for Further Education and Careers—CE offers integrated technical and academic instruction, coupled with work experience and training, that provides students with the academic, technical, and employability skills they need to succeed in the next step of their educational path and to compete effectively for desirable jobs.

Prepared Workforce—CE is responsive to current and future workforce trends and committed to preparing skilled workers meet those needs.

Economic Development—CE prepares students for high-demand, high-wage, and high-skill occupations and aligns education and training programs with state economic initiatives.

Nebraska CE partners have implemented multiple initiatives to promote these CE goals and this research identified six strategies that appear central to Nebraska CE. The following section describes these strategies and offers recommendations to support them.

Strategy 1: Expose Students to Careers at an Early Age

Nebraska CE partners agree that offering CE at every education level provides essential opportunities for students. In early grades, students learn about the world of work; in middle and high school, they explore careers and gain relevant technical and academic experience; and through postsecondary education and training, they hone the skills and knowledge needed for success in the workforce. As one respondent noted, "By the time a student is already in high school, he or she should be ready to explore; awareness should happen in elementary grades."

Many of those interviewed emphasized that CE should be designed to expand opportunities for students, not compel them to follow a narrow track. According to one person, CE should not track or lock anyone into a single job; it should "prepare people for the opportunity to realize what their options are and what careers are available." Another said, "I see it as a part of helping students know that there is a world of work that they fit into. A specific job may change, their skills may develop, and they have options to move within different careers that we are preparing them to do." State residents and counselors also support offering career awareness opportunities to young students, citing the importance of learning about potential careers in middle school and participating in job shadowing and internships in high school (Herian 2010).

Nebraska has several initiatives offering early and ongoing opportunities for students to learn about careers and participate in career-related activities.

- The **Nebraska School Counseling Model** is based on a national framework of counseling best practices and is aligned with the Nebraska Career Education Model (Nebraska Department of Education n.d.–e).[3] The Nebraska School Counseling Model outlines how student learning, earning, and living skills develop through educational stages, beginning with career awareness and exploration in elementary and middle school and leading to career preparation and application in high school.
- NDE developed **Curriculum for Careers (C4C)** to support the Career Education Model. The Middle School Career Exploration Course includes curriculum, lesson plans, and resources to help teachers integrate career exploration into middle school classrooms (Nebraska Department of Education n.d.–c). Through C4C, students explore careers, learn how to use career information, participate in career-related activities, develop a Personal Learning Plan (PLP), and acquire essential knowledge and skills common to many careers.
- On the **Nebraska Career Connections** website (NebraskaCareerConnections.org), students can explore the 16 Career Clusters, assess their interests and skills, and use the results to map out courses in high school that will help them transition successfully to college and prepare for a career.

[3] For more information about The American School Counselor Association (ASCA) National Model®, go to http://www.ascanationalmodel.org.

- **Virtual Industry Tours** provide an introduction to, and overview of, different industries and careers relating to the 16 Career Clusters.[4] The virtual tours provide students and job-seekers "an accurate picture of today's workplace, breaking down stereotypes and assumptions while emphasizing the knowledge and skills required to be successful." The tours are a joint project of NDE, the Nebraska Department of Labor (NDOL), and the Nebraska Department of Economic Development (NDED). Teacher and student guides are available for each industry tour video.
- The **High Wage, High Demand, High Skill (H3) website** (h3.ne.gov) was a joint effort of NDOL, NDED, and NDE. The website is designed to provide information about high-wage, high-demand, and high-skill Nebraska occupations to educators, economic developers, students and parents, community leaders, and job seekers (Nebraska Department of Labor n.d.–c).[5]
- NDE and NDOL collaborated to develop the **Career Readiness modules** and H3 to assist Nebraskans in improving their job readiness.[6] The modules cover 11 topics, including seeking employment, communication, teamwork and leadership, and workplace ethics.

Recommendation: Encourage Systemic Implementation of the Nebraska School Counseling Model

The Nebraska School Counseling Model is available on NDE's website, and **updating the NDE School Counseling website to describe the information and available resources more clearly and effectively** would be helpful for users.[7]

In addition, although NDE has developed and disseminated the material, it does not appear in substantive form on the Nebraska School Counselor Association

[4] To view the Virtual Industry Tours, go to http://www.necareertours.com.
[5] High-wage occupations are those with wages at or above the median. High-demand occupations are identified by the number of annual openings, the net change in employment, and the growth rate for the specific occupation. High-skill occupations are those requiring some form of training and education beyond high school. All three factors must be present to be an H3 Occupation.
[6] To view the Career Readiness modules, visit http://nelearn.myelearning.org/course/view.php?id=2.
[7] The current NDE website for the Nebraska School Counseling Model can be found at http://www.education.ne.gov/CARED/NEModel/index.html.

website.[8] **State guidance may be needed to encourage and assist districts and counseling professionals in adopting and implementing the Nebraska School Counseling Model**. Individuals interviewed for this study noted that guidance counselors and advisors already incorporate a career focus into their work with students: they "start the conversation most of the time through activities in elementary, middle, and high school."

There is, however, room for improvement in the public information available about guidance counseling and advising. For example, one school district's counseling program currently lists the following areas of focused support for K–12 education on its website:

- Elementary students will be supported to attend school regularly, advance on grade level, and achieve literacy.
- Middle school students will be supported to attend school regularly, advance on grade level, and transition to high school.
- High school students will be supported to attend school regularly, advance on grade level, graduate, and prepare for postsecondary opportunities.

All of these focus areas are essential, but they do not explicitly address career preparation or exploration. Incorporating the Nebraska School Counseling Model would help the district promote these goals publicly, while furthering integration of career exploration, preparation, and application throughout all grade levels.

In addition, the 2010 *Nebraska School Counseling State Evaluation* found that Nebraska school counselors are assigned many extra duties and assignments not related to the development of a comprehensive school counseling program (Carey and Harrington 2010). In addition, Nebraska school counselors spend, on average, 18 percent of their time on assigned activities that are unrelated to their role as counselors and 14 percent on program-related activities that do not involve student contact. This may suggest a need for greater focus on fully implementing the School Counseling Model across the state.

[8] The Nebraska School Counselor Association website is available at http://www.neschoolcounselor.org/advocacy.html.

Recommendation: Assess and Encourage Use of Career Awareness and Exploration Tools

By investigating student understanding and use of available career tools, CE leaders will be able to refine CE resources and ensure their effectiveness in meeting student needs. **Establishing a confidential process for analyzing student use of the Career Connections website** will provide information about the types of students who use the resource and help CE partners serve them more effectively. The Career Connections website managers undoubtedly have the ability to track site traffic, and a confidential process for analyzing student use could begin with tracking frequency of individual student use and the types of activities they undertake on the site. Those data could be linked to student characteristics available in de-identified student profiles to learn about how often and how effectively students use the website in relation to a variety of factors, such as where they live or their grade level. Such information in aggregate could allow NDE and its partners to provide support and marketing to student groups not visiting the website currently or to tailor website features to serve users even more effectively.[9]

Student Personal Learning Plans help students map out clear paths through high school and into postsecondary education and the workforce. The plans have the potential to increase motivation and engagement and help students feel they are guiding and controlling their own paths. It is unclear, however, how extensively PLPs are used in high schools and if they are used at all once students enter Nebraska postsecondary institutions. Nebraska policy leaders should **consider requiring school districts to incorporate Personal Learning Plans into school counseling programs and implement a technical assistance plan to support schools in using PLPs effectively.**

Continuing to use Personal Learning Plans in postsecondary education will help students talk about their career paths with advisors, serve as a record of their past experiences and coursework, and decrease their likelihood of taking duplicative or unnecessary coursework in college. Nebraska secondary and postsecondary CE leaders may wish to **explore how other states are connecting PLPs across education sectors and into the workforce and determine if such an approach could be adopted in Nebraska**.

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[9] All schools have access to Nebraska Career Connections, although some use other online resources, such as Career Cruising or Naviance, as their primary tool for student exploration. The suggested analysis would not capture information for students who use other career exploration tools, but would still allow NDE to tailor and refine Career Connections to effectively serve the schools and students who use the site.

Strategy 2: Support Initiatives Integrating Core Academic and Technical Coursework

Preparation for further education and the workforce includes developing proficiency in academic, technical, and "employability" or "soft" skills, such as professionalism, creativity, time management, and critical thinking (Mukuni and Price 2013; Symonds 2012). According to many individuals interviewed for this project, Nebraska CE is critical to developing a skilled workforce for the future. One person noted that CE is the means by which Nebraska will create "a competent and knowledgeable workforce with not only the technical skills but also the employability skills" required for career success.

Nationally, estimates suggest that many high school graduates are underprepared for postsecondary education. Between 20 and 40 percent take remedial coursework upon entering college, with even higher proportions for students entering public two-year institutions (Sparks and Markus 2013; Complete College America 2012; Alliance for Excellent Education 2011).[10, 11]

Students also may be less than fully prepared for the workforce. Recent studies have found that employers had difficulty finding and hiring workers with the right skill set and that high school graduates and individuals with associate's degrees often lacked the skills to enter the workforce (Manyika et al. 2011; The Conference Board et al. 2006).

A large-scale survey of employers found that young workers, particularly recent high school graduates, are perceived as underprepared for work and deficient in skills such as communication, critical thinking, leadership, and professionalism (Symonds, Schwartz, and Ferguson 2011; The Conference Board et al. 2006). With fewer opportunities in the labor market, young workers with these skill gaps face a significant barrier in finding and keeping jobs that pay middle-class wages. Those skill gaps and the resulting challenges in finding jobs can have negative effects on employment prospects well into the future.

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[10] The National Center for Education Statistics defines remedial coursework as "courses for students lacking skills necessary to perform college-level work at the degree of rigor required by the institution" (Sparks and Markus 2013).

[11] Taking remedial courses slows students down and makes them less likely to graduate (Wirt et al. 2004). Nearly 40 percent of community college students who are referred to remedial courses never take or complete them, and estimates suggest that less than 10 percent graduate from community college within three years of enrolling and only about three in 10 complete a bachelor's degree in six years (Complete College America 2012).

Interviews also indicated varying perceptions about the level of students' academic preparation and agreement that technical preparation is strong. Nearly all respondents, however, had concerns about students' employability skills. According to one interviewee, businesses "can't get [workers] to work on time or to stay at work or they use up all of their vacation at once." Someone with excellent technical skills who does not understand the importance of showing up at work on time is just as difficult to employ as a person with no skills at all (Houghton and Proscio 2001). Opinions varied about the role of school, home, and workplace in improving employability skills, as they do in the literature on this subject (Symonds 2012). Although some respondents felt that parents have a role in teaching employability skills at home, most see school as an important partner in helping students learn, practice, and apply those skills.

These are challenges that career education is well positioned to address. Career education is delivered through applied and contextualized learning opportunities that prepare students for both broad career fields and specific occupations. Research shows clear benefits to programs integrating academic and technical content, and career education has been a leader in efforts to align curriculum across content areas and education sectors (U.S. Department of Education 2011a).

Career education can promote student achievement and prevent students from dropping out of high school (Kazis 2005; Stern and Stearns 2006; Offenstein, Moore, and Shulock 2009). In 2010–11, Nebraska high school seniors who concentrated in career education took more advanced placement and honors courses (34 percent compared to 29 percent) and were more likely to meet requirements for a high school diploma (98 percent versus 82 percent) than seniors who were not CE concentrators (Nebraska Department of Education n.d.–d). Students who took at least one CE course in grades 7–12 had a lower dropout rate (0.4 percent) than those who did not take a CE class (3 percent). By supporting initiatives promoting integrated technical and core academic coursework, Nebraska could extend these benefits to even more students.

Career Education: Opportunities for students and employers

Career Student Organizations (CSOs) offer students opportunities to explore career paths, strengthen technical skills, and build leadership and personal skills (Future Educators Association 2010). More than 20,000 Nebraska students are members of CSOs.[12]

CSOs are an integral part of CE programs, and research indicates that greater levels of CSO involvement are related to higher levels of academic motivation, engagement, grades, and employability skills (Alfeld et al. 2007).

Partnerships between career education and industry ensure that programs incorporate relevant industry standards and skills and make it easier for students and employers to connect (Holzer, Linn, and Monthey 2013; U.S. Department of Education 2011b; Soares 2010).

Nebraska Career Connections allows CE students to connect with potential employers and employers to connect with the developing workforce via Connect 2 Business (C2B).

Recommendation: Promote Readiness for College and Careers

In 2011, the Nebraska State Board of Education unanimously adopted a set of 11 Standards for Career Ready Practice, and NDE recently completed a revision of the standards for CE courses. These standards also have been crosswalked to promote alignment between CE courses and core courses and ensure that core standards are supported in CE courses.

Providing all students with an understanding of workplace expectations and the chance to practice related skills will strengthen Nebraska's workforce. CE leaders, in cooperation with curriculum consultants from core areas, teachers, and school activity coaches/leaders, should **develop strategies to infuse the Nebraska Standards for Career Ready Practice into schools.** The need for employability skills is well documented, and although career education and CSOs offer many opportunities for students to develop, practice, and apply employability skills, career readiness still must be addressed in all aspects of education.

[12] Nebraska supports several CSOs, including DECA, Future Business Leaders of America–Phi Beta Lambda (FBLA–PBL); Family, Career and Community Leaders of America (FCCLA); Future Educators Association (FEA); The National FFA Organization (FFA); Health Occupation Students of America (HOSA); and SkillsUSA. Information about student participation in CSOs provided by NDE.

Nebraska may want to consider assessing student readiness for careers. A variety of assessments and resources exists, including the U.S. Department of Education Employability Skills Framework, a clearinghouse for information about and instruction in employability skills. The website includes an interactive framework of employability skills, an online tool for selecting a skills assessment, and profiles of employability skills initiatives.[13]

Recommendation: Develop Statewide Dual Enrollment Policy

Research indicates that dual enrollment is a highly promising approach for supporting students' secondary-to-postsecondary transition (Community College Research Center 2012; Rodriguez, Hughes, and Belfield 2012). In recent studies, high school students participating in dual enrollment were more likely to enroll and persist in postsecondary education (Karp, Calcagno, Hughes, Jeong, and Bailey 2007). Underachieving and underrepresented students participating in career-focused dual enrollment programs were more likely to graduate and less likely to take basic skills courses in postsecondary education (Hughes, Rodriguez, Edwards, and Belfield 2012). Earning college credit while in high school can also result in savings for families and shorter college careers for students.

Nebraska Standards for Career Ready Practice

A career-ready individual:

- Applies appropriate academic and technical skills
- Communicates effectively and appropriately
- Contributes to employer and community success
- Makes sense of problems and perseveres in solving them
- Uses critical thinking
- Demonstrates innovation and creativity
- Models ethical leadership and effective management
- Works productively in teams and demonstrates cultural competency
- Attends to personal and financial well-being

SOURCE: Nebraska Department of Education n.d.–f.

There are challenges to implementing dual enrollment policies, however, particularly on a large, statewide scale. Some educators report that dual enrollment limits students' ability to enjoy their high school experience, and others have concerns about how well courses offered in high school truly reflect the rigor of college-level work (Speroni 2011a, 2011b; Krueger 2006). The structure in which dual enrollment is offered may exclude low-achieving and lower-income students, and secondary and postsecondary education partners often must establish course standards and determine how funding will flow (Hughes, Karp, Bunting, and Friedel 2005; Karp, Bailey, Hughes, and Fermin

[13] For more information about the Employability Skills Framework, visit http://cte.ed.gov/employabilityskills.

2004). Addressing these and other concerns is essential to developing dual enrollment policies that provide access and effective services to students.

Unlike most states, Nebraska currently has no statewide legislation or regulatory policies governing dual enrollment. Many high schools and postsecondary institutions have established dual enrollment agreements enabling students to earn college credit while in high school, but the portability of credits is sometimes limited. A 2011 study of dual enrollment and career academies by the Nebraska Coordinating Commission for Postsecondary Education outlined many of the potential benefits and challenges of dual enrollment. The study recommended multiple steps to be taken in the near future, including examining statewide costs and increasing investment, establishing standard transferable general education courses, and developing postsecondary entrance standards. The study, however, did not appear to produce significant changes to statewide policy.

It would be beneficial for Nebraska CE partners and policymakers to **consider establishing statewide dual enrollment agreements for core academic and technical courses, allowing students to earn postsecondary credits in high school that would be accepted by any Nebraska public postsecondary institution**. There are many issues to consider in the course of such a conversation (Hughes, Rodriguez, et al. 2012). While Nebraska is already well positioned in terms of curriculum—the Nebraska Career Education Model and Standards for Career Ready Practice are established and used throughout the state—CE partners will need to explore other specific policy options, such as:

- The flow of funding to and from secondary and postsecondary institutions,
- How credits can be earned and transferred,
- Student eligibility and outreach,
- Eligible course locations and schedules, and
- Use of college or high school instructors and required instructor qualifications.

Recommendation: Explore Expansion of Career Academies

In 2010, Nebraska residents indicated they were in favor of a system of high schools focused on specific careers (Herian 2010). Career academies are a well-established strategy for promoting student success in high school and in the transition to postsecondary education. Academies usually are designed around

common career themes or clusters and include extensive opportunities to apply classroom knowledge in the world of work (Brand 2009). Students typically take core academic and technical classes together for two or more years, from teaching teams representing multiple disciplines.

Research indicates that career academies can benefit students by increasing their engagement and participation in career awareness activities and reducing dropout rates for those at high risk of leaving before graduation (Kemple and Snipes 2000). Academies also can reduce the need for remediation in college, increase the likelihood of graduating from college, and lead to greater earnings gains over time (Maxwell 2001; Kemple 2008). Advocates have noted that the collaboration among educators, businesses, the community, and postsecondary institutions can leverage resources from all partners and introduce students to mentors who support their success.

In the past, career academies in Nebraska have varied in structure (Nebraska Department of Education 2012). In 2012, the legislature passed Revised Statutes 79-777 and 79-318, which stated that "any school district, with the approval of the State Department of Education, may establish and operate a career academy" offering high school students a career-based educational curriculum.

In 2013, Nebraska's governor signed Title 92, Chapter 47, Regulations for Career Academy Programs Established by School Districts. These regulations standardize career academy programs offered by school districts and define programs as "a sequence of credit-bearing academic and career technical courses which reflect a Career Cluster selected in response to local, regional, or state employment needs and demand for expertise." The regulations outline the process and curriculum requirements for establishing a career academy and are based on the Nebraska Career Education Model.

Districts that establish career academies must:

- Recruit students seeking career-based curriculum.
- Recruit and hire instructors with expertise in the Career Field.
- Provide rigorous academic coursework and career preparation opportunities that prepare students for the workforce.

SOURCE: NRS 79–777.

Funding for Nebraska career academies comes from the establishing school district, community and business partners, and private donations for operating expenses, with the state providing little separate funding outside of transportation support for students traveling to a separate career academy facility (Revised Statutes 79-777 and 79-318).

Nebraska policymakers may want to consider a more direct role in supporting academies financially, as other states have done. For example:

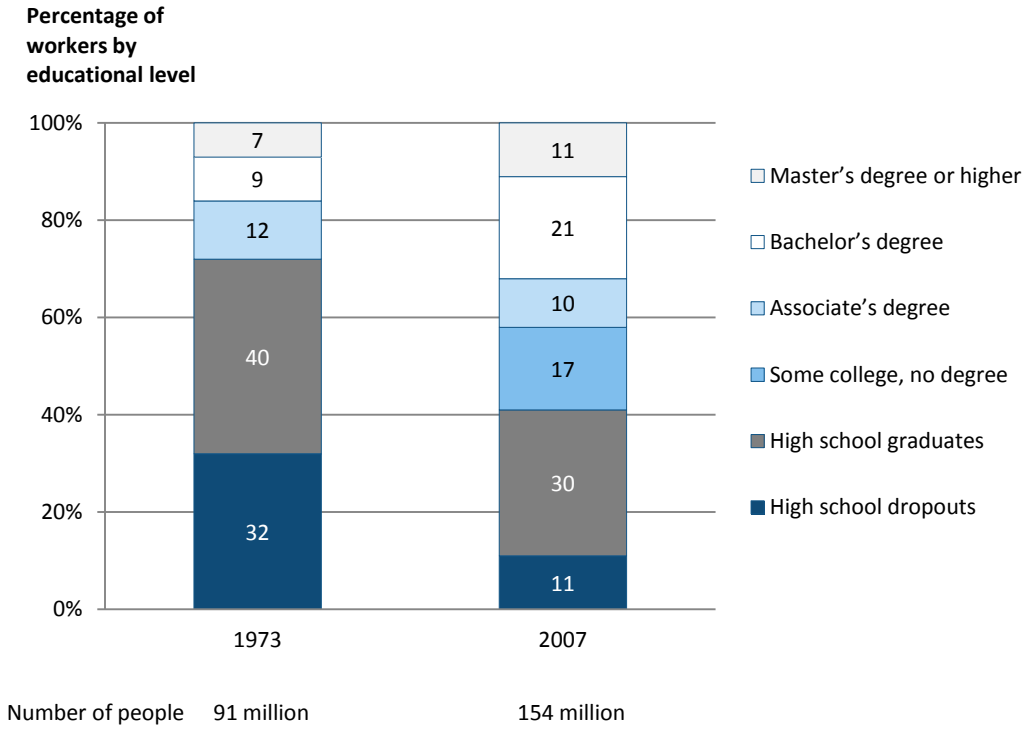
- California's Partnership Academies are supported through state grants that are matched 2-to-1 by host school districts and employers (California Department of Education 2013).
- In 2013, the District of Columbia provided start-up funds to eight schools to support administrators dedicated to academy development and technical assistance from the National Academy Foundation (Brown 2013).

National experts also recommend that partners leverage funds available from several education and workforce sources to support career academies**.** The *Carl D. Perkins Career and Technical Education Act of 2006* (*Perkins*) provides some resources for career academies, and the *Workforce Investment Act* may be a source of funds to support employer outreach and work-based learning (Brand 2009). Nebraska already has employed this approach successfully through projects such as Industry Tours Videos, Career Readiness Modules, and reVISION. NDE and partners may want to **determine if there are additional opportunities to braid funds across education and workforce sources to support career academies**.

Strategy 3: Demonstrate that Multiple Paths Lead to Successful Education and Careers

Matriculation from high school into a four-year postsecondary institution is not the only way to prepare for careers that pay living and middle-class wages. According to the 2011 *Pathways to Prosperity* report, the percentage of jobs requiring some postsecondary education grew from 28 percent in 1973 to 59 percent in 2007, and nearly half of those required some education beyond high school, but less than a bachelor's degree (Exhibit 3) (Symonds et al. 2011).

Exhibit 3. Percentage of Jobs Requiring Some Postsecondary Education: 1973 and 2007



SOURCE: Symonds, Schwartz, and Ferguson 2011.

Demand for "middle-skill" workers is growing rapidly in the healthcare industry, and researchers anticipate significant new and replacement job openings in construction, manufacturing, and natural resources by the end of the decade. These occupations pay wages that can sustain a middle-class family, and some pay more than jobs requiring a bachelor's degree. According to a 2011 report, however, "too few Americans who attend college and vocational schools choose fields of study that will give them the specific skills that employers are seeking" (Manyika et al., p. 3).

In 2010, NDED and NDOL conducted a competitive advantage assessment of the state's economic efforts (Battelle Technology Partnership Practice 2010). The study found that one of Nebraska's major business disadvantages is a shortage of highly skilled workers due to a limited pool of workers from which to select, difficulty attracting talent from outside of Nebraska, and the challenge of keeping recent graduates in the state.

The *Pathways to Prosperity* report also highlights the dangers of a singular focus on transition from high school to four-year colleges and encourages policymakers

to support multiple pathways, including those involving postsecondary education short of a bachelor's degree (Symonds et al. 2011). Providing relevant education and work experience is particularly important in rural areas, where talented young people may see more opportunities outside than within their local communities. Education and training programs leading to high-wage and high-skill occupations available locally may help communities retain their young people, persuade existing companies to stay in the area, and attract new business and industry.

Changes in approaches to counseling and guidance and improved communication to families would help Nebraskans understand and embrace multiple pathways to success in education and work.

Recommendation: Clarify and Expand Communication to Parents and Students

According to a 2010 survey of Nebraskans, parents of children in K–12 want to learn more about career options, but feel that schools do too little to inform families about careers and related education requirements (Herian 2010). This was a common theme among those interviewed as well, with one person noting that "the state and schools could do a better job at finding ways to get buy-in from parents and the community. A better understanding of the benefits of CE might help change the perception that CE is a 'lesser' education path." Another indicated that there was too much emphasis on students getting a bachelor's degree or higher, observing that there is very high-skill training available for jobs that do not require a professional degree.

Further, according to one respondent, a change of perspective is needed among Nebraska policymakers: "Right now, from the governor on down through the legislature, they recognize there is a need for well-trained individuals to meet the job needs. But there's way too much emphasis placed on bachelor's degrees. There's not enough [emphasis on CE] by elected officials or the legislature."

NDE provides extensive marketing and communication to districts, students, and parents, and at multiple levels of detail. For example, in addition to the Career Connections website, NDE provides:

- Posters of the Career Education Model that can be displayed in schools and classrooms
- At-a-glance brochures for each Career Cluster
- Sample Student Learning Plans for each Career Cluster

- Community college Programs of Study for each Career Cluster[14]

In spite of these efforts, families and students may not be fully aware of available resources or understand how CE could help them meet their education and career goals. CE partners, including policymakers and employers, should **consider developing a comprehensive marketing and communication plan highlighting the benefits of integrated academic and technical programs and the opportunities and careers available to students through CE**. The marketing plan may include strategies to make information available through a variety of sources targeting different audiences, including print materials, media releases, and social media.

Recommendation: Encourage Career Guidance and Advising that Supports Multiple Career and Education Pathways

Students who are less interested in a four-year degree but exposed to other paths to further education or a career may be more engaged in high school and prepared for the future than if they believe that a bachelor's degree is the only path to success. According to many of those interviewed, career guidance and advising is a critical element of helping students learn about the diverse opportunities available. One person noted that Nebraska schools and communities focus heavily on academics and the path to a four-year institution because of a perception that CE leads "to a career that is not...as high quality. There is a disconnect between understanding what careers, positions, or jobs can emanate from CE...they are, in this day and age, well paid jobs with bright futures."

Some are concerned that too few students and school counselors see the potential employment future offered by career education programs. One person said, "If there's a disconnect in K–12, it is high school counselors' awareness and understanding of CE. No fault of the University...most students who end up being counselors are products of universities.... What will they fall back on? Four-year degree."

NDE and postsecondary institutions have been working diligently to create awareness among school counselors about career options, and the Nebraska School Counseling Model is one of the results. Community colleges are also reaching out, with some offering campus tours to help school counselors gain a better understanding of the programs offered.

[14] For Career Education Model posters and graphics, at-a-glance brochures, sample student learning plans, and community college Programs of Study information, go to http://www.education.ne.gov/nce/CareerClustersResources.html.

Wider adoption and implementation of the Nebraska School Counseling Model could reinforce efforts to change the career guidance and advising culture and improve the awareness of families and communities. Potential approaches could include developing additional labor market information for school counselors and advisors that links career opportunities with the related educational path. Another may be expanding professional development in career guidance strategies for school counselors. A third could include developing strategies to engage local communities, business and industry, teachers, and parents in career counseling and advising.

Strategy 4: Measure and Demonstrate the Benefits of Career Education

An important element of marketing career education is being able to provide clear and relevant information useful to a variety of audiences. Nebraskans want to know if their support for education is leading to better outcomes for students and the economy. According to one individual interviewed, "[We need to] track whether [students] were successful or not—it is not hard to track them—and find exactly what is happening. There needs to be a strong evaluation of the public schools and how they are helping students find careers."

NDE already provides helpful information about the success of CE programs, such as *Nebraska Career Technical Education by the Numbers*, a two-page document of highlights about CE student characteristics and outcomes. The NDE Data Reporting System also provides statistical information about CE, including performance on federal indicators, student participation, and a tool for finding Programs of Study offered in each district.[15] The Data Reporting System does not incorporate much of the important information provided in printed reports, however, such as the proportion of student CE concentrators, graduation rates, comparisons with all Nebraska students, and performance on any metrics other than the federal *Perkins* measures.

According to NDE, the state's most recent state longitudinal data system (SLDS) federal grant may address some of these issues by establishing a research and evaluation operation within the department (Folkers, Hastings, Lange, Masco, and Vetter 2013). The SLDS structure will offer multiple avenues for presenting data, including dashboards, visual analysis tools, reports, and score cards.

[15] For access to the NDE Data Reporting System, visit http://drs.education.ne.gov/Pages/default.aspx.

Recommendation: Identify Key Career Education Policy Questions

Nebraska's SLDS development and implementation offers a unique opportunity for CE to assess its information and research needs and ensure that future reporting tools represent CE students and programs accurately and comprehensively. An SLDS incorporating data from multiple education, workforce, and human services partners offers CE the chance to identify unexplored research questions that the SLDS will enable them to investigate.

NDE, through collaboration between the Data Research and Evaluation Team and the Career Education staff, should consider undertaking a process to **identify key career education policy and research questions and conduct a gap analysis to ensure that relevant data will be available through the SLDS**. Examples of key policy questions being asked nationally and in other states include, but are not limited to, the following (Richards Sheil and Rasmussen Foster 2013; Staklis 2013; Data Quality Campaign 2010; Kazis 2005):

- At what rate do secondary CE students transition to postsecondary education, and are there differences among students based on geography, family income, and other factors?
- Are CE students ready for further education and how successful are they when they get there? Are some students more successful than others?
- Are CE students prepared for the workforce?
- How effective are CE programs, and are there differences based on course and program delivery modes?
- What are the best predictors of success in further education and the workforce (e.g., coursetaking, performance on assessments, concentration in CE)?
- Do students who participate in dual enrollment and career academy programs have different outcomes than students who do not?
- Are CE students more or less likely to use Nebraska human service resources later in life?
- What benefits does CE offer CE students, parents, and the public?

A process to generate policy questions in Nebraska might consider these questions, other topics of interest to Nebraska CE partners, as well as research questions relating to the strategies and recommendations in this white paper. For

example, the question about effectiveness of CE programs could be adapted within Nebraska to explore the effectiveness of Programs of Study and of delivery modes such as enrollment in a comprehensive high school or career academy and participation in dual enrollment.

Once key policy questions are defined, NDE could **develop online data reports and query options that would allow users to generate information easily about questions important to them**. One approach may be to integrate, expand, or enhance the Data Reporting System to showcase the presence of CE-related data. The system could include career-readiness metrics giving educators timely and relevant information permitting them to intervene with students sooner and locally. Another possibility is developing a statewide, cross-sector reporting system that meets the needs of a variety of education and workforce audiences. Incorporating pre-K–12 data and reporting with postsecondary, workforce, and human services reporting systems would prevent information from being isolated, take advantage of the potential of the SLDS, and encourage partners to explore data from new perspectives.

A reporting system can provide meaningful information by presenting key outcomes, disaggregating data for different levels and student populations of interest, and providing context through comparisons and trends to support user understanding of the information. High-quality reporting systems provide accessible, relevant information to a variety of audiences, including CE educators, students, parents, policymakers, and the public.

Strategy 5: Analyze Linked Education and Workforce Data

Answering many of the policy questions in Strategy 4 will require analysis of linked, individual-level education and workforce data (Data Quality Campaign 2010). Linked data systems potentially can provide accurate, comprehensive information to a variety of users about the alignment and effectiveness of education and workforce programs (U.S. Department of Labor 2012).

Connecting education and workforce records will allow Nebraska partners to analyze education effectiveness and workforce trends; align education and workforce policy to maximize benefits to students, workers, and employers; and provide specific information for students and workers as they advance through their education and career paths (Vandal 2009). NDE and postsecondary institutions have collaborated to align Programs of Study across secondary and

postsecondary education. As noted in Legislative Resolution 285, Nebraska wants to extend this work to understand how well education and training programs align with current and future workforce needs.

Nebraska is already making strides in this area. In 2012, the state received a Workforce Data Quality Initiative (WDQI) grant to "build or expand longitudinal databases of workforce data and link them to education data to help improve the overall performance of workforce development programs" (U.S. Department of Labor 2012).[16] In preliminary plans, NDOL indicated that the database will include individual records for employment and training, postsecondary education, adult basic education, career education, and vocational rehabilitation (Nebraska Department of Labor 2012). As it is developed and refined, the database will allow Nebraska partners to analyze and evaluate program data, assess performance over time, and identify promising strategies for improving program performance.

Nebraska also is part of a multi-state data-sharing agreement with Iowa, South Dakota, and Wyoming. The agreement allows states to share a "starter set" of 30 data elements including workforce and other types of data (U.S. Department of Labor n.d.). As a result, Nebraska partners now have access to information about individuals who leave the state to work.

Significant work remains to be done, however. For this project, the RTI team attempted to use currently available information to analyze the extent to which CE programs are generating enough, too few, or too many prepared workers for the occupations projected to be available in the next 10 years. The team, however, encountered challenges matching CE program information with data for industries and projected job openings that could not be addressed within the scope of this project. As a result, the report recommends several steps to align and connect education and workforce data to support effective future analysis.

Recommendation: Connect Education and Workforce Data and Analysis Efforts

The Nebraska Career Education Model is based on the 16 national Career Clusters, which the state organized into six Career Fields. Career Clusters represent a broad array of possible careers, and secondary and postsecondary institutions offer multiple Programs of Study within 15 of the 16 clusters.

[16] The Nebraska Department of Labor (NDOL) is the fiscal agent for the three-year, $1,000,000 federal WDQI grant.

In 2010, NDED and NDOL commissioned a study that identified 12 primary industry clusters that drive Nebraska's economic growth (Battelle Technology Partnership Practice 2010). The study identified the clusters using a framework that prioritizes "wealth-creating sectors of the state's economy" responsive to needs within the state and beyond Nebraska's borders (p. 8). Nebraska primary industries are those already operating successfully in Nebraska and expected to grow in the coming years.

Exhibit 4. Nebraska Primary Industry Clusters

Nebraska's Industry Clusters
• Agricultural Machinery • Agriculture & Food Processing • Biosciences • Business Management & Administrative Services • Financial Services • Health Services • Hospitality & Tourism • Precision Metals Manufacturing • Renewable Energy • Research, Development, & Engineering Services • Software & Computer Services • Transportation, Warehousing, & Distribution Logistics

SOURCE: Battelle Technology Partnership Practice 2010.

NDOL also collects and reports information about Nebraska industries using the North American Industry Classification Systems (NAICS), a standard categorization system used by federal and state agencies that collect, analyze, and disseminate information about U.S. businesses (U.S. Census Bureau 2013b). NAICS categorizes business establishments according to their use of similar processes to produce goods and services (U.S. Census Bureau 2013a). NAICS has 20 broad sectors, and within each sector are subsectors, industry groups, industries, and country-specific codes.[17] The Nebraska Department of Labor provides projections for the Nebraska labor market using NAICS codes.

During the course of this assessment, the RTI team, in consultation with NDE and NDOL, attempted to assess the alignment of CE programs and the projected

[17] NAICS defines establishments as "generally a single physical location where business is conducted or where services or industrial operations are performed (e.g., factory, mill, store, hotel, movie theater, mine, farm, airline terminal, sales office, warehouse, or central administrative office)" (U.S. Census Bureau 2013a). NAICS was developed jointly by the U.S. Economic Classification Policy Committee (ECPC), Statistics Canada, and Mexico's Instituto Nacional de Estadística y Geografía, and country codes allow each nation to maintain country-specific information.

need for skilled workers. That process included developing a preliminary crosswalk of NAICS codes, NDE Career Clusters, and Nebraska primary industries. Because the process of mapping these different systems is complicated, this effort required more time than was available through this project. As a first step to promote more effective joint education and workforce analysis and investigation of the alignment of CE programs and occupational projections, NDE and NDOL could **explore the feasibility of developing a crosswalk that maps Career Fields, Career Clusters, and Programs of Study; primary industry clusters; and NAICS codes for analytical purposes.**

Crosswalks that map Career Clusters and industries or occupations can help promote more aligned education and workforce data analysis. In the past, states have developed individual crosswalks to assist CE providers in planning, approving, and evaluating programs and providing guidance and counseling for students (Kotamraju and Steuernagel 2012). Nebraska may already have existing industry crosswalks that could inform such an effort. Partners also could consult the results of the Crosswalk Validation Project that connected Classification of Instructional Program (CIP) codes, Standard Occupational Classification (SOC) codes, Career Clusters, and Career Pathways (Kotamraju and Steurnagel 2012).[18] Virginia, for example, has established a map of its Career Clusters and occupations using crosswalks developed through the national project.[19]

Exploring alignment between programs and labor market projections at the state level is important, but must be accompanied by local analysis. Some industries and occupations are located in specific regions and understanding how local education and training programs align with those industries is essential. Boundaries are not always congruent, however. School district and college service boundaries do not align completely with the three local Workforce Investment Areas or seven Economic Regions (Nebraska Department of Labor n.d.–a, n.d.–b).

A second recommended step is to **determine how to address the geographic differences present in the NDE and NDOL structures**. This could take a variety of forms, including, but not limited to, a crosswalk or map or creating proxy regions to address the needs of this type of analysis. This approach potentially can offer districts, schools, and colleges tools to help them more

[18] For more information about the Crosswalk Validation Project, refer to http://www.nrccte.org/resources/studies/crosswalk-validation-project.
[19] For more information about Virginia's crosswalk, refer to http://www.ctetrailblazers.org/2013/04/crosswalking-occupations-to-career.html.

accurately assess the alignment of CE programs and local workforce needs, in addition to needs statewide.

A third step would involve **defining the population of secondary and postsecondary students to be included in the analysis.**[20] While understanding the interests and coursetaking patterns of younger students is important in designing education and training programs, these students are still learning about careers and may change their focus over time. If Nebraska is interested in learning how many students are likely to be in the pipeline for particular careers, it may be more useful to start by examining students who have exhibited a higher level of interest in CE by taking several courses in a particular Career Field or Cluster. For example, secondary concentrators are students who have taken at least three courses in a single Program of Study, a good starting point for looking at high school students' career interests in relation to workforce needs.

A secondary student can, however, reach concentrator status in more than one Program of Study (i.e., a student taking three agriculture courses and three business courses could be counted as a concentrator in both Career Clusters). Besides determining the threshold level of student involvement in CE for inclusion in the analysis, Nebraska may want to consider unduplicating its count of concentrators. If so, CE partners would need to develop a method for assigning secondary and postsecondary concentrators in multiple clusters to a single Career Cluster. The Department already is required to do this when submitting annual *Perkins* accountability data and could use a similar method or develop a new method more suited to this purpose. Such an approach is unlikely to be perfect, but could be attempted by analyzing coursetaking: some students' coursetaking patterns may indicate a clear commitment to an area of study, although other students' course enrollments will not. Using student self-reports of career interests is another possibility, although updating that information as students change their minds can be difficult.

Recommendation: Incorporate Labor Market Analysis into Career Education Program Approval and Review

Understanding the current and future labor market for a new program can help ensure that CE programs are preparing students for available jobs and incorporate relevant skills and competencies. Introducing labor market data available through

[20] RTI researchers had access to duplicate counts of secondary students who participated in career education coursework for this project. The team was unable acquire the numbers of postsecondary career education participants or concentrators.

NDOL can strengthen those efforts by standardizing expectations for CE program approval and review and by offering regional and statewide information about the related labor market (Merkley and Johnston 2007).

As Nebraska secondary and postsecondary educators develop new programs, they rely primarily on advisory committees of business leaders and employers to identify the current and future job market for related occupations. Such advisory committees are critical to program success. The engagement and effectiveness of advisory committees can vary widely, however, sometimes resulting in advice that is of limited use to districts and colleges or that has an overly local perspective.

Adding and expanding analysis of NDOL data would offset some of these issues by providing standard, quantitative information about the relevant labor market at multiple levels. Similarly, adding an analysis of NDOL labor projections to the CE program review process could help districts, colleges, and the state ensure that existing programs are still accurately targeting labor market needs.

During interviews, at least two CE stakeholders noted that NDOL industry projections were considered during the development of Programs of Study, but others felt that the use of DOL workforce data to guide CE program development could still be improved. For example, one interviewee said that customizing and simplifying DOL data for education purposes might help strengthen the connection between secondary programs and DOL industry projections. Specifically, if school districts were provided with "better data, [the school districts might use them to] look at providing opportunities to students." This person highlighted the H3 website as an ongoing effort to better "align [school programs] with what is happening economically" in a way that is accessible to "educators, economic developers, students, parents, community leaders, and career seekers" alike.

The RTI team recommends that NDE, in collaboration with school districts and postsecondary institutions, **develop a standard policy and process for acquiring and analyzing labor market data for CE program approval and review**. Several states require or encourage districts and colleges to analyze labor market data as part of program approval or review process. For example:

- Delaware requires school districts and charter schools offering state-approved CE programs to consult an established advisory committee and use Department of Labor projections when assessing the need for new or

continuing CE programs (Delaware Administrative Code Title 14.500.525).

- Virginia's CE program and course application requires data about labor market and employment needs (Virginia Department of Education 2012).
- Michigan requires CE providers to prepare a needs assessment based on current labor market information for high-skill, high-wage, and high-demand careers when applying for a new secondary CE program (Michigan Department of Education 2011).
- Pennsylvania requires applicants to complete a comprehensive worksheet to obtain formal approval for new secondary CE programs (Pennsylvania Department of Education 2013). Applicants must verify a local need for the program using workforce data and clearly outline articulation agreements (if they exist), dual enrollment credits, and articulated credits.
- Oregon requires that proposed secondary CE Programs of Study be supported by a letter from the local advisory committee (Oregon Department of Education and Oregon Department of Community Colleges and Workforce Development n.d.). Postsecondary program proposals must include a labor market analysis conducted within the last three years.

If incorporating labor market analysis into CE program approval and review is of interest, **NDE will first want to work with NDED and NDOL to develop systems and resources for educators**. By doing so, NDED and NDOL can ensure that the information available to program applicants is accessible and understandable and that NDOL and NDED will not be overwhelmed by questions and additional work.

The potential for success with such a partnership seems particularly high in Nebraska. Comments from people interviewed for this project consistently indicated that NDE leadership is highly collaborative and has a strong relationship with its workforce partners. According to one respondent, "Since Rich [Katt] became the director, they have exploded the relationship between NDE and NDOL. They are constantly thinking about how to complement each other and partner."

reVISION

The NDE reVISION initiative is one example of strong education-workforce partnerships. Schools that go through reVISION work with secondary and postsecondary CE educators, regional workforce and economic development partners, counselors and advisors, and industry experts to conduct an in-depth analysis of their CE system and make strategic plans for the future (Nebraska Department of Education n.d.–g).

A primary goal of reVISION is to "align and support Career and Technical Education Systems with Nebraska's Economic Initiatives" (Nebraska Department of Education n.d.–h, p. 1). Other goals include developing talent pipelines for economic growth; aligning secondary CE programs with postsecondary entrance requirements; and nurturing common language and understanding among employers and educators.

According to one interviewee, "reVISION brings communities together about educating kids. They can apply for *Perkins* money to implement a strategic planning process…and you have to have economic development and workforce at the table…. CE has really taken itself out of the classroom and into the community."

Several states have developed education and workforce partnerships to create tools that could be models for Nebraska. For example:

- Oregon requires colleges interested in proposing a new CE program to submit a standard form (called the LMI Worksheet) that includes information about job titles and descriptions, current and projected available jobs, job growth rate, minimum and competitive educational requirements, wages, and similar CE programs around the state (Oregon Department of Community Colleges and Workforce Development 2012).[21] The Oregon Labor Market Information System (OLMIS) at www.qualityinfo.org provides this and other information.

- The Virginia CE program application directs users to a website (www.ctetrailblazers.org) designed specifically to support CE professionals in finding and using occupational and employment data to plan courses and programs (Virginia Department of Education 2012). The Trailblazers website provides employment projections for 2010–20 by region and cluster, including annual job openings and annual mean and median wages.

[21] To view the form, visit http://www.odccwd.state.or.us/prgapproval/appsandwkshts.aspx.

Strategy 6: Provide Sufficient Resources to Support Effective Career Education Programs

Legislative Resolution 285 requests information about funding for and costs of CE programs. Although a comprehensive analysis of revenues and expenditures is beyond the scope of this rapid assessment, the RTI team gathered preliminary information about current CE funding in Nebraska and other states to support future committee work.

In simple terms, the Nebraska school and community college distribution formulas assess local needs and resources and meet gaps in need with available, appropriated state aid funds (Nebraska Department of Education 2013; Nebraska Community College System n.d.).[22, 23]

The state currently does not provide additional funds for career education programs at the K–12 or postsecondary level, although NDE will be requesting support in the next legislative session for schools to implement changes identified through the reVISION process. According to Rich Katt, state CE Director at NDE, the funds would help offset tax constraints on districts seeking to revise or upgrade their programs to meet workforce and economic development needs.

Recommendation: Evaluate the Costs of Career Education

Even if the state were to incorporate an allowance for CE in the state aid formula, a significant number of districts would not benefit because they are already "equalized" (i.e., local resources exceed calculated needs) and receive little state aid. The RTI team recommends that NDE and its partners **undertake an in-depth analysis of the cost of offering CE at all levels of education, including new initiatives that partners may wish to implement**. A

[22] Calculated Needs – Calculated Resources = State Equalization Aid for school districts. Calculated needs include a variety of operating costs and allowances and adjustments for poverty, special programs, elementary site, transportation, learning community transportation, distance education, teacher instructional time and education, new school status, and student growth. Resources include eligible funds available through local property resources and levy adjustments; option funding; income tax; retirement, teacher education, and instructional time aid; and other district receipts. For more information, refer to *Tax Equity and Educational Opportunities Support Act: Certification of 2013/14 State Aid*.

[23] Needs – Resources = State Aid for community colleges. Needs include the most recent years' expenditures plus three percent automatic growth and additional growth averaged over three years. Resources include property taxes levied, tuition and fees collected, and state aid appropriated. For more information, visit http://www.ncca.ne.gov/ncss/revenuestateaidformula.htm.

potential model for such a study is the 2001 report *What Does It Cost? An Analysis of Annual Statewide Expenditures for Vocational Education in Wyoming* (Klein, Bugarin, and Hoachlander 2001).

RTI reviewed the funding approaches of several states that adjoin Nebraska, are similar in size, or have a similar approach to providing career education. For example:

- Oregon does not weight state funds differently or provide more funds for CE programs. It does, however, have a Revitalization Grant allowing school districts, education service districts, and public schools to compete for funds to support collaboration between education providers and employers (Oregon Revised Statutes 344.075).
- Kansas has five state-weighted funds available for state-approved career and technical programs. The funding is used to pay for instructor professional development, specialized equipment, and smaller classes (Kansas State Department of Education 2013).
- In Utah, funding for CE is based on a weighted per-pupil unit (WPU) that includes incentives for career education in secondary school districts (Utah State Office of Education 2010). Funding is used for teacher training and salaries, equipment, counseling and guidance, work-based learning, courses, and accountability reporting. Recently the state introduced CE funding to cover tuition costs for students enrolled in a CE course at a community or technical college and to pay their transportation expenses to and from the college. The state also will pay up to half the cost of a required assessment for an industry-recognized credential in a high-need area for high school students.
- South Dakota does not currently provide additional CE funds or weight CTE programs differently. The state, however, passed legislation in 2013 that is expected to provide funding beginning in 2015 (South Dakota Codified Laws Title 13, Chapter 13). Once the state's share of the limited English proficiency adjustment is funded and the workforce education fund exceeds $2 million, the amount of the remaining funds in excess of $1 million may be used to fund new and existing secondary CE programs.

In addition, the National Center for Innovation in Career and Technical Education (NCICTE) currently is conducting a national study of state funding strategies for career education programs. When it is publicly released in 2014, this information could be an excellent resource for Nebraska's funding discussions.

Recommendation: Explore Incentive Funding to Align Career Education Programs to Workforce and Economic Needs

The reVISION process allows school districts to conduct an in-depth analysis of their CE programs, with special emphasis on their alignment to workforce and economic needs (Nebraska Department of Education n.d.–g). After completing reVISION, a school district can apply for *Perkins* state reserve grant funds to implement the reVISION Action Plan developed through the process. *Perkins* funds are limited and, according to NDE, do not provide the necessary fiscal resources for all schools to implement the changes required in their action plans. During the 2013–14 fiscal year, schools requested more than $1 million in assistance, although only $250,000 was available.

As more schools participate in the program, the need for resources to support the identified changes will greatly exceed funds available through *Perkins*. **State investment to support these efforts will help Nebraska develop a skilled workforce prepared for jobs now and in the future.**

Next Steps

Nebraska's Career Education Model already exhibits many characteristics of "rigorous, relevant, and results-driven CTE programs" described in the U.S. Department of Education's *Investing in America's Future: Blueprint for Transformation of Career and Technical Education* (2012):

- Organized and aligned course sequences spanning secondary to postsecondary education that lead to certifications, degrees, and awards that have meaning in the labor market and position students for employment in high-growth occupations.
- Secondary and postsecondary instruction that integrates academic, technical, and career content and enables students to see the relationships between what they learn in school and the world around them.
- Collaboration among educators and employers to offer work-based learning experiences and opportunities to earn credit through dual or concurrent enrollment.
- Increased access to educational opportunities through technology, particularly in rural areas.
- Greater flexibility in designing programs that meet labor market needs and promote successful student outcomes.
- Commitment to expanding initiatives such as Programs of Study and career academies and exploring promising education strategies and models.

The recommendations in this report are intended to reinforce and expand the work Nebraska is already doing. Because they are numerous and require different levels of effort and resources, the RTI team has organized the recommendations into three general categories that represent the time and resources required for implementation. We suggest addressing the lower-intensity efforts immediately. The medium- and higher-intensity efforts will require more planning and exploration of policy, resources, and partnership requirements.

Lower-Intensity and Short-Term Efforts

- Update the NDE School Counseling website to describe the Nebraska School Counseling Model information and available resources more clearly and effectively.
- Identify key career education policy and research questions and conduct a gap analysis to ensure that relevant data will be available through the SLDS.
- Determine if additional opportunities exist to braid funds across sources to support career academies.

Medium-Intensity and Medium-Term Efforts

- Provide state guidance to encourage and assist districts and counseling professionals in adopting and implementing the Nebraska School Counseling Model.
- Establish a confidential process for analyzing individual student use of the Career Connections website.
- Consider requiring school districts to incorporate PLPs into school counseling programs and implement a technical assistance plan to support schools in using PLPs effectively. Develop strategies to infuse the Nebraska Standards for Career Ready Practice into schools.
- Develop strategies to infuse the Nebraska Standards for Career Ready Practice into schools.
- Consider developing a comprehensive marketing and communication plan highlighting the benefits of integrated academic and technical programs and opportunities and careers available to students through CE.
- Develop online data reports and query options that would allow users to generate information easily about questions important to them.
- Determine how to align or map the NDE Career Fields, Career Clusters, and Programs of Study; the Nebraska primary industry clusters; and the NAICS codes to support additional linked education and workforce data analysis. Determine how to address the geographic differences in the NDE and NDOL structures. Define the population of secondary and postsecondary students to be included in the analysis.
- Develop a standard policy and process for acquiring and analyzing labor market data for CE program approval and review.

High-Intensity or Longer-Term Efforts

- Explore how other states are connecting student personal learning plans from secondary to postsecondary education and into the workforce.
- Consider assessing student career readiness.
- Consider establishing statewide dual enrollment agreements for core academic and technical courses, enabling students to earn postsecondary credits in high school that would be accepted by any Nebraska public postsecondary institution.
- Consider a more direct state role in supporting career academies financially.
- Develop systems and resources for educators to incorporate quantitative labor market data into CE program review and approval processes.
- Conduct an in-depth analysis of the cost of offering CE at all levels of education, including new initiatives that partners may wish to implement.
- Consider providing state investment to support education and workforce alignment efforts.

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