

***Shifting Gears:* Integrating Opportunities for Idaho's Students with Career Readiness**



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Submitted by:

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Table of Contents

Executive Summary 3

Introduction 4

 Project Background & Scope 4

 Project Methodology and Execution 4

 Document Organization 5

Why Does CTE Matter? 6

CTE in Idaho..... 9

 Section 1: Scope of Programs..... 9

 Section 2: Program Course Selection 10

 Section 3: Alignment to Industry..... 11

 Section 4: Instructors & Counselors 12

 Section 5: Student Interest..... 13

Recommendations 15

 Policy Recommendations 15

 Recommendations for CTE Programs..... 17

Executive Summary

Idaho faces an increasing gap between the skills possessed by its students and those needed to succeed in a rapidly changing economy. Recognizing the threat posed by this gap, Idaho Business for Education (IBE) engaged Slalom, an independent consulting firm, to research the current Career and Technical Education (CTE) system in Idaho with the goal of identifying ways Idaho can address this gap, shift gears, and ensure Idaho's students are ready to succeed.

CTE is designed to prepare students to enter the workforce in a focused and intentional manner with a clearer understanding of their interests and skills. Offered in high schools, and community and technical colleges, CTE consists of hands-on training, and workplace experience, such as internships and/or apprenticeships, and may result in a certification. Given the projected job growth in Idaho and the gap of workers required to fill those jobs, promoting and supporting CTE is more important than ever. However, CTE programs are hampered by lack of funding, misconceptions and myths, lack of community engagement and, in some cases, low student interest and enrollment.

Based on interviews and a survey of CTE administrators, the following key themes emerged:

- 1) There is a traditional mindset, image and focus of CTE in Idaho
- 2) CTE programs are affected by capacity constraints and funding
- 3) There is a widespread instructor shortage that is exacerbated by low pay and inflexible teaching requirements
- 4) Students are not learning about and signing up for CTE courses, schools and teachers are not incentivized to tell students about the benefits of CTE courses, and myths and misconceptions about CTE are being perpetuated

To transform CTE in Idaho, IBE recommends a series of actions that are aligned with the following core principles:

1. Ensure students are graduating with applicable skills, experience and certifications
2. Focus policy interventions on aligning education and industry
3. Focus on the needs of the student
4. Create opportunities for students to continue their career journey

Seeing CTE as an essential part of readying students for the real world will help prepare them for the realities of post-secondary life, as well as ensure industry is getting the workers it needs to meet Idaho's economic development and growth.

Introduction

The job market in the United States continues to shift and change due to new and emerging technology and enhanced global demand and competition. Increasing efficiencies in traditional sectors of the economy have led to the mechanization of routine jobs, resulting in highly specialized jobs requiring specific education, training and certification. An example of this change is in food processing. A few years ago, processing plants employed thousands of people. Today highly automated, robotic plants only require a few hundred workers with higher level skills. The education sector dedicated to preparing students for jobs requiring specific skillsets is known as Career and Technical Education (CTE). Offered in high schools, community and technical colleges, CTE consists of hands-on training, and workplace experience, such as internships and/or apprenticeships, and may result in a certification demonstrating expertise in that area.

In addition to this shift in the job market, industry is experiencing an unprecedented shortage of workers qualified in CTE areas, such as construction, welding, agriculture, diesel technology, health sciences, and occupational therapies. In 2020, there will be a projected worker shortage of 5 million workers in the United States. To help fill this gap, states are developing new and innovative approaches to ready their workforce including passing legislation to encourage, promote and incentivize CTE education. However, government has found that they cannot solve this alone – industry must be at the table to help solve this complex issue.

Project Background & Scope

Idaho Business for Education (IBE) commissioned this report to help identify gaps in the current CTE system in Idaho, and to determine how to best leverage strategies used in other states to address these gaps. Slalom, an independent consulting firm, was engaged to prepare this report.

The need for this analysis was driven by a variety of factors, including:

1. Static enrollment in Idaho CTE courses
2. Increasing industry need for workforce ready employees for CTE-related jobs
3. Leveraging best practices from other states
4. Increasing momentum and interest on the topic of CTE with the Governor's Workforce Development Task Force

The scope of this study includes:

1. High school CTE programs
2. Technical and community colleges
3. CTE course alignment with industry

Project Methodology and Execution

Slalom interviewed representatives from the Idaho State Board of Education, Department of Labor, local CTE school programs and technical colleges, as well as experts in CTE in the United States. Slalom conducted 13 interviews over a four-week period. Names of interview participants were provided by the CTE Administrator,

Dwight Johnson, and represented a cross-section of local CTE high schools, government officials and post-secondary administrators. Additional interview participants were provided by Byron Yankey at the State Board of Education, and the research team identified additional local CTE program administrators to ensure a representative sample. A complete list of interviewees is in Appendix A.

Additionally, a survey was conducted of 15 CTE high school programs and 6 technical schools in the state. A list of survey respondents is included in Appendix A.

Document Organization

This document is organized into the following sections.

- *Why Does CTE Matter?* Provides background context on the value of CTE, workforce demand in Idaho and funding for CTE in the state
- *Findings:* Presents results of research on CTE programs in Idaho
- *Recommendations:* Prioritizes recommendations based on findings and best practices

Why Does CTE Matter?

Traditionally referred to as the trades or vocational school, Career and Technical Education (CTE) has matured into an area of educational study that promotes real world experience and hands on learning for high school students and adult learners. Designed to give students the skills required to be successful in the workforce, CTE programs span numerous diverse industries, including business, construction, finance, computer science, health sciences, welding and culinary arts.

Rather than locking students into an occupation, CTE is designed to give students choice by exposing them early to career pathways. Traditionally, CTE was viewed as an option for students that didn't have the grades or financial ability to continue to post-secondary education. Today, CTE embraces the concept of 'skills based learning' which encourages students to get out of the classroom and receive real-world experience at a place of employment, such as:

- Biology for health sciences students wishing to become certified in nursing assistance
- Geometry for welding students
- Mathematics for computer science fields, such as network administration and software coding

In addition to skills based learning, CTE provides college and career readiness skills, referred to as 'soft' or essential skills. Teaching skills students need to 'go on' - a term that conveys post-secondary education and/or job readiness - not only prepares them with the analytical and inter-personal skills required, but gives them the confidence and self-esteem they need to succeed.

I. Workforce Demands in Idaho

Throughout the United States, companies are having difficulty finding skilled workers. Commonly referred to as the 'skills gap', employers are ready to hire, but are unable to find workers with the training to meet their needs.¹ The need for workers with middle skills – skills requiring an industry certification or some degree of post-secondary training, but do not require a 4-year degree – is high. While '[n]o aggregate estimate of the shortage of middle-skills workers exists...the number is expected to grow substantially as more baby boomers retire...labor market experts estimate that as many as 25 million, or 47%, of all new job openings from 2010 to 2020 will fall into the middle-skills range.'² In Idaho, middle skill jobs account for 54% of Idaho's labor market, but only 51% of workers possess the required skills.³

Idaho has been experiencing remarkable economic growth with companies representing a wide variety of industries relocating to Idaho to take advantage of the business-friendly climate and high quality of life. With a

¹ <https://stateimpact.npr.org/idaho/2012/07/26/a-weak-economy-or-inadequately-trained-workers-whats-to-blame-for-joblessness/>

² <https://hbr.org/2012/12/who-can-fix-the-middle-skills-gap>

³ https://careertech.org/sites/default/files/pictures/Idaho_CTESnapshot2015.pdf

projected annualized growth rate of 1.8%, the influx of enterprise and commerce has changed the economic landscape of Idaho. Predominately known as an agricultural state, the face of Idaho jobs now encompasses high tech, advanced manufacturing, aerospace, and food processing and production. In addition, for those traditional Idaho sectors, such as forestry and agriculture, technology is changing the way these jobs are performed. For example, a lumber mill in northern Idaho utilizes state-of-the-art equipment from Germany to achieve efficiencies in forest and lumber production. Once requiring lumberjacks, the forest industry in Idaho needs people skilled in advanced robotics to run and manage highly mechanized mills. Given the changing needs of Idaho, the state now has a diverse and demanding job market that requires skilled workers that are job ready.

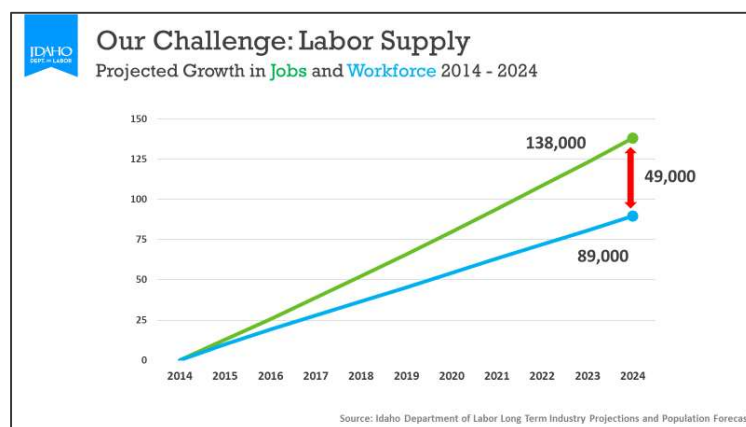
II. Closing the Skills Gap

Employers must develop creative solutions to attract people to middle skills jobs, and are looking for support from the local and state government to help bridge this gap. In 2024, Idaho projects a shortage of 49,000

workers.⁴ In addition to attracting workers to high demand fields, there is a concern among business leaders that workers are not adequately trained or ready for the job.

According to the nonpartisan organization Achieve, nearly 80% of college instructors and 60% of employers indicate that public high schools fall short in preparing students for post-secondary education.⁵ In addition, a survey conducted by the Association of American Colleges and Universities found

that employers do not perceive students as being job ready and lack the soft skills required to function in the workplace.⁶ The importance of secondary and post-secondary programs to ready the workforce of Idaho and create the talent pipeline for Idaho businesses requires a collaborative approach to ensure industry needs are met.



One way programs can ensure workers are workforce ready is to have students test for industry certifications as a part of their coursework. Industry certifications, versus institutional certifications, demonstrate that the student has an industry recognized skillset. Conversely, an institutional certification is not recognized by

⁴ Idaho Dept. of Labor

⁵ <https://www.achieve.org/>

⁶ <https://www.insidehighered.com/news/2015/01/20/study-finds-big-gaps-between-student-and-employer-perceptions>

industry and lacks the portability and recognition of an industry credential. By incorporating industry certifications into CTE, students will have the right credentials and skillsets employers are looking for.

With an unemployment rate in Idaho that is lower than the national rate by 1% (3.5 percent and 4.5 percent, respectively), there is a risk that companies will determine they cannot find the workers they need in Idaho and will choose to leave the state.⁷ This is an outcome we cannot afford.

III. CTE Funding in Idaho

The federal funding mechanism for CTE in the United States is the Perkins Act. Reauthorized in 2006, the Perkins Act enables the development of academic and career pathways by promoting a greater emphasis on academic rigor, career focused programs of study, articulation between secondary and post-secondary education and greater accountability.”⁸ Idaho is estimated to have received \$6,441,799 from the Perkins Basic State Grant in FY2016 and \$6,380,330 in FY2015.⁹

Idaho has a streamlined educational system with a single State Board of Education responsible for all public education, academic and career-technical, from kindergarten through post graduate level. The single Board of Education structure in Idaho allows for a more seamless, accountable system of education, working cohesively for the betterment of the citizens of Idaho. Secondary level CTE programs and services are provided through middle schools, comprehensive high schools, professional-technical schools and through some cooperative programs with the technical colleges. Post-secondary professional-technical education programs and services are delivered through the state’s technical college system.¹⁰

According to a report from the National Center for Innovation in CTE, Idaho funds high school CTE based on program support units, which factor in teacher FTE, the number of classes and class periods taught. The program support units are then weighted by program area.¹¹

At the post-secondary level, the technical college system is funded through the State General Fund for faculty salaries, operating expenses, capital outlay and local administration. Student fees are included in the main institutional budgets and, in some circumstances, part-time student fees are used to support instruction. Workforce development/customized training for adults is paid for primarily by employer contributions and user fees, with additional support from the CTE general program budget.¹²

⁷ National unemployment rate at this time is 4.5 percent.

⁸ <http://www.aypf.org/wp-content/uploads/2013/04/CCRS-CTE-Primer-2013.pdf>

⁹ More data on the state's funding allocations is available at <http://cte.ed.gov/profiles/idaho>.

¹⁰ <http://s3.amazonaws.com/PCRN/docs/stateplan/ID5YearStatePlan.pdf>

¹¹ http://s3.amazonaws.com/NCICTE/pdf/NCICTE_CTE_Finance_Study.pdf

¹² <https://www.acteonline.org/stateprofiles/>

CTE in Idaho

The state of Idaho has a goal of 60 percent of 25-34 year olds attaining some form of post-secondary credential by the year 2020. To achieve this goal and meet the needs of Idaho's industry, it is important to understand how programs prepare people to join Idaho's workforce. This section focuses on characterizing the breadth and depth of CTE programs offered in the state of Idaho. Findings are organized into the following sections:

1. Scope of Programs: *What types of programs are offered?*
2. Program Course Selection: *How do programs determine the type of courses to offer?*
3. Alignment to Industry: *Of the programs that are offered, do they align to industry and how?*
4. CTE Instructors & Counselors: *Do schools have the people needed to teach and promote CTE?*
5. Student Interest: *What is the level of interest in taking CTE courses? Is there a supply issue?*

Section 1: Scope of Programs

CTE programs are delivered at high schools and through a statewide system of six technical colleges located in each of the six planning regions of the state.¹³

1. Traditional CTE Programs

Traditional CTE programs, such as building construction, welding and automotive/collision, are the most prevalent and popular programs in the state. The majority of programs surveyed (92%) offered traditional CTE courses.

2. Wide Variety of Programs but Not Offered Consistently Across the State

A wide variety of programs are offered (39 different programs), however aside from traditional CTE courses, programs are not offered consistently across the state. Over half of the programs are offered at only 1 or 2 schools at the high school level. STEM or business-related programs, such as pre-engineering, precision machinery, and advanced manufacturing are not offered consistently across the state. For a complete list of programs, see appendix A.

3. Programs Vary Based on Regional and Industry Needs

Program administrators reportedly partner with local industry to offer courses that meet their needs in their respective region. Examples of regional variation include aerospace, aviation and hospitality offered in northern Idaho, and food products & processing in Southern Idaho where there is a strong industry need for workers in those fields.

4. Traditional Programs in High Demand but Constrained by Capacity

Traditional courses, such as welding and automotive collision, are in high demand. However, these courses are hindered by capacity issues due to space constraints and safety concerns. Traditional courses

¹³ <https://cte.idaho.gov/students/adult-students/technical-colleges/> See appendix B for a complete list.

typically require specialty equipment and large workspaces, and may restrict enrollment to 12-15 students due to safety precautions. For example, students working with welding equipment or heavy equipment require additional oversight to ensure safety. As a result, traditional courses are oversubscribed.

5. Lack of Recognition that STEM Courses are CTE Courses

Statewide, there is a general lack of understanding that Science, Technology, Engineering and Math (STEM) courses are CTE courses. STEM related CTE programs offer students the opportunity to apply academic coursework to the workplace, and may require advanced science and/or math proficiency. As one survey respondent noted, there is low enrollment in their pharmacy tech CTE program because “you must be a senior to take the course, it is a year-long and very hard. Student must be strong in math and science skills.” In general, students do not see STEM related CTE courses as a career pathway to applied math and science leading to low enrollment in these programs.

6. Non-Traditional CTE Programs Have Lower Enrollment

Courses such as advanced manufacturing, precision machinery and robotics that provide students the opportunity to apply school coursework, were cited as having low enrollment. Business courses focusing on word processing and using the basic Microsoft office suite also experience low enrollment. One respondent hypothesized that these courses may be outdated since today students learn how to use computer programs in middle school and are integrated into their school coursework.

Lastly, masonry programs have difficulty attracting students. One high school CTE program actively recruits and promotes their masonry program, with little results. The school administrator talked about how industry consistently requests students but students are simply not signing up.

“Some of our programs do have low enrollment. There is low enrollment due to the fact that the school district, which is our LEA, does not believe CTE programs have any more worth than the common elective. We are then competing with PE, Teachers Assistants, Music, Seminary, etc. instead of being a pathway towards a successful student career. We have even had current administration dictating to the counseling staff to not put students in our programs.”

~Survey respondent

7. Efforts to Create More Programs and Schools

Since CTE programs offer students a way to gainful employment and help address poverty in rural areas of Idaho, CTE administrators are actively engaging with local communities to develop new CTE programs. Administrators in two rural programs in the Treasure Valley and Horseshoe Bend are assisting in opening CTE courses to help ensure students in those regions have the same opportunities as students in urban areas.

Section 2: Program Course Selection

Based on current CTE funding guidelines set by the State, it is the responsibility of the local CTE program to determine what programs should be offered. The school has the discretion to identify local need, decide the types of courses and set the curriculum. However, a stipulation of state funding is that schools must partner with local industry and business leaders to ensure programs meet the needs of the business community.

Known as technical advisory committees (TACs), the model is intended for industry to have a voice in the course selection and offerings of CTE programs. All programs surveyed reported that they have a TAC they work with to ensure courses meet industry need. Some respondents described a close working relationship between the school, local economic development council, business community and local politicians. Other respondents noted that they meet with the TACs twice a year as required by funding, but that there was limited interaction outside of these meetings. When TACs were discussed with industry leaders, there was the viewpoint that TAC engagement and impact on local course offerings varied considerably based on the persons involved and may have limited impact or influence in some areas.

Section 3: Alignment to Industry

To successfully address the worker shortage in Idaho, CTE programs must partner with industry to ensure programs are readying students appropriately. Across the state, there were stories of partnerships and collaboration between CTE programs and industry to expose students to the reality of workplace. However, given the projected worker gap, more needs to be done to ensure Idaho businesses can find employees with the right skills.

1. Traditional Programs Linked Highest to Industry Certifications

Seventy five percent (75%) of traditional programs offer an industry certification. An industry backed certification differs than a non-industry recognized certificate insofar as the industry certification tests on standard areas of knowledge to ensure that the student has the skills and experience required to do the job. The majority of traditional programs (i.e., welding, auto mechanics and nursing assistance) were tied to an industry certification.

2. Half of the Programs are Not Tied to Industry Certification

Out of the 39 programs identified in the state, 50% are not tied to an industry certification. Linking an industry certification to a program means students who successfully complete the course are eligible to take the certification exam. Half of the programs offered do not result in an industry credential that can be used to show potential employers they have the necessary skills and experience to do the job.

3. Schools Offering Non-Industry Based Certifications

Community colleges offer other technical certifications that are not tied to an industry recognized certification. These technical ‘certificates’ have questionable market value to employers and do not have the portability of industry credentials, meaning that a non-industry certification is not recognized by employers in a different part of the state.

4. Importance of Internships & Apprenticeships

There is a recognition among CTE administrators that they need to partner with businesses to offer internships and apprenticeships so students get real world experience. This requires businesses to open their doors and allow students to job shadow and create junior positions. Typically, business only want workers with advanced skills and experience, but there needs to be more opportunity for less experienced workers that are taking CTE courses and looking to grow their skillset. Creating positions and opportunities for these workers will benefit the CTE program, the business and the student.

5. Increased Attention on Badging

With roots in the technology industry, there is a trend to promote badging in the state. Like the Boy Scouts, badges or microcredits gives participants a badge for skills demonstrated. Some respondents questioned the value of emphasizing badging since they are only recognized in certain fields, and may have limited impact on the worker gap.

6. Existing Courses Flex to Meet Industry Demand

CTE courses can flex to meet industry needs if the request is a change to a pre-existing course. In these cases, industry wishes students to learn a different technique, such as having a welding course teach how to weld aluminum. As long as the instructor has the knowledge to teach the new technique, these changes are easy to make. If the ask is more complex or the instructor is not familiar with the new technique, these changes can become long, cumbersome and difficult to implement.

7. Programs Slow to Develop New Courses

To create a new course offering takes at a minimum two years from inception to delivery. Once an area of study is identified by the TAC and school as worthwhile to create, the process for is very slow to develop the curriculum, hire the right instructor and get the course advertised in the course catalog. Several interviewees mentioned the disconnect between the urgency of industry and the response of educators. Industry respondents strongly felt that there was a lack of responsiveness by CTE programs and that the process was too slow. On the other hand, some CTE programs thought the timeframe was 'about right' and there was minimal opportunity to shorten the time it took to develop new programs.

Section 4: Instructors & Counselors

While parents have a high degree of influence over high school CTE students, the role of instructors and counselors in promoting and teaching CTE courses is critical. It is from their teachers and counselors that students learn about CTE courses and make the determination to pursue them. Recruiting high quality instructors with experience in their field of study is arguably more important in CTE than other areas of study.

"All CTE teachers are difficult to find and getting harder to find. Pay has a lot to do with it...Who wants to teach at \$30,000 a year when they can work in industry making \$80,000 a year?"

~Survey respondent

1. Widespread Instructor Shortage Impacts all Programs Offerings

The survey asked respondents if their program had experienced issues with hiring and retaining instructors. All respondents (100%) said that low wages for instructors was the main reason there is difficulty hiring & retaining instructors.

Has your program experienced issues with hiring and retaining CTE instructors?	
Options	Response %
Wages/Pay	100%
Required teaching certification	75%
Lack of qualified candidates	66%

2. Teaching Certification a Barrier to Attracting Qualified CTE Instructors

Seventy-five percent (75%) of respondents cited the state's teacher certification requirement as a barrier to attracting qualified instructors to teach CTE courses. CTE programs need instructors with workplace experience, such as working in a welding or automotive shop.

People with workforce experience typically do not have a teaching certificate. Earning a teaching certificate is a costly and lengthy process, which impedes attracting qualified people to teach CTE courses.

"Finding instructors is a concern. This will become more of a problem as the chair & instructors retire."
~Survey respondent

3. Efforts to Develop Academic Advising

Programs are focusing on the role of academic advising in helping students make choices about their future. One program, Idaho Distance Learning (IDLA) offers a course on Academic Advising that "focus[es] on engaging students in early career awareness and planning, using data to guide academic planning, transition of students from middle school to high school and then to college, and the importance of post-secondary choices and finding the right postsecondary fit."¹⁴

4. Effectiveness of Transition Coordinators Varies

Transition coordinators (TCs) assist students transition from high school to the workforce or secondary education. There are TCs at each of the technical colleges in Idaho. TCs provide career advice, assistance with college and financial aid applications and coordinate field trips to businesses so students can see the workplace firsthand. The effectiveness of the TCs vary based on their personality and their relationship with the students. Some TCs are high touch and out in the field, while others take a more academic approach to the position and focus on counseling students. To ensure the TCs are effective in promoting CTE courses, it is important that they are connecting with students and understanding their barriers and challenges.

Section 5: Student Interest

Attracting students to CTE courses is challenging. Due to misconceptions and a lack of prioritization of CTE in the schools, students are not finding their ways to CTE courses.

1. Lack of Student Data/Information

There is a lack of data on why students do not go into CTE courses and what barriers or challenges they may be encountering. There are a lot of assumptions about what students want, but there needs to be a comprehensive effort to characterize the student's journey and perspective.

2. Increasing Attention to Career Exploration

CTE administrators are starting to recognize the importance of early career exploration. Increasingly, programs recognize that by the time students get to their sophomore and junior year of high school, they

¹⁴ <https://www.idahodigitallearning.org/pd-course/academic-advising/>

need to be earning skills and experience that will help them get a job and that career exploration must start in middle school. Schools are introducing programs aimed at getting middle school students to explore career options, such as the Freshman Wheel at the Payette River Technical Academy. As part of this program, freshmen rotate every 4 weeks to each career pathway to get exposure and help them better understand their interests. At the end of the program, students take a workforce readiness test that gauges career aptitude and employability.

3. CTE Programs Treated the Same as General Electives

Students are typically overwhelmed by and unclear about which courses they need to take to complete their secondary education requirements. There are no additional incentives for students to take CTE courses and since students do not understand the value of CTE courses, they are typically overlooked. If students are not aware that CTE courses can help them get industry-recognized credentials and find a career, they do not sign up.

4. Funds Available for CTE Students Not Always Used

High schools can use Fast Forward funds allocated by the Idaho Legislature to cover CTE courses. However, some program administrators do not know that these funds can pay for the student to sit for the industry certification, causing students to pay out of pocket for the exam.

5. Efforts to Change Perception Result in Limited Impact

CTE in Idaho is associated with 'dirty' jobs (i.e., welding, diesel & automotive mechanics) and is seen as an option only for students that are 'not smart enough' to go on to post-secondary education. This outdated perception of CTE has led to an image problem in Idaho. To combat this perception, some districts, such as Nampa, have conducted rebranding efforts. Seen as a successful attempt to recast CTE in a broader light, other programs are trying to replicate this effort. However, there is reportedly minimal impact in terms of increased enrollment and attracting students to CTE.

Recommendations

This section provides recommendations to improve CTE program and industry alignment. Importantly, our recommendations are based on four core principles to enhancing and improving CTE in the state of Idaho.

There is a clear need for new strategies and bold actions to ensure that Idaho's CTE programs are preparing our students to succeed. Adopting these recommendations will help ensure that more of Idaho's students receive the education and training they need for high-demand jobs, avoid bouts of unemployment or underemployment, and earn a decent living.

Policy Recommendations

Principle #1: Ensure students are graduating with applicable skills, experience and certifications

Recommendation #1: Credential Based Approach

Aligning industry credentials to the specific CTE programs ensures students are getting the skills and experience required by industry. Industry certifications ensure statewide portability and that students are graduating with a recognizable skillset. Schools and programs offering technical certifications with little or no recognition by industry must reexamine these certifications and focus efforts on awarding certifications that are known and backed by industry.

Industry Based Credentials:

Backed by 30 leading retailers, the National Retail Federation's RISE Up Certificate is an example of an industry-backed credential that demonstrates the recipient has skills & experience in fundamental retail competencies

Recommendation #2: Industry Experienced Instructors

Instructors with real world experience are essential for teaching CTE courses. Having job experience in the area of focus is arguably more important in CTE than other fields. There needs to be a better process for accrediting instructors to teach without having them go through the extensive teaching certification program. Attracting instructors with real world experience to teach CTE courses should be the focus. By attracting instructors that are passionate about their skill without overburdening them with regulations may also help overcome the fact that programs are not able to compensate instructors the same as industry. Additionally, offering part-time or off-hour work schedules may attract industry experienced instructors, giving people an opportunity to earn additional money while giving back to their communities.

Principle #2: Focus policy interventions on aligning education and industry

Recommendation #3: Introduce Financial Incentives to CTE Programs Tied to Industry Certification

States are increasingly adopting legislation to offer financial incentives to districts and/or teachers to promote CTE programs. This trend has yielded impressive outcomes in increasing student's enrollment in CTE. Florida, for example, saw a dramatic increase of students earning industry certifications as part of their CTE program. In 2006, there were 800 students statewide that earned an industry certification. By 2016, 71,000 students

earned an industry certification and 41,000 earned a certification with college credit, resulting in a tuition savings of \$9.2M.¹⁵

In the state budget, CTE can either be part of the accountability system, which means that promoting CTE is factored into the student funding formula, or it can be a line item in the state budget. Additionally, states can incentivize CTE at either the district-level or teacher-level or both. States have taken different approaches:

State	Line Item Appropriation or Part of School Funding Formula	School Incentive / Teacher Incentive / Both
Florida	Part of School Funding Formula	Both school & teacher incentive
Kansas	Line Item Appropriation	School incentive only
Colorado	Line Item Appropriation	School incentive only
North Carolina	Line Item Appropriation	Teacher incentive only

To drive accountability and outcomes for students, the incentive should be for both the school and the teacher. By only incentivizing schools, the districts are building the infrastructure to offer CTE programs, but not targeting the teachers that have influence over student decisions, which would ultimately lead to low enrollment. Idaho should incentivize both schools and teachers.

Recommendation #4: Develop a Performance Driven System

Generate funding for the district only if the student earns an industry credential. In addition, ensure that all programs result in industry certification. Driving performance and outcomes is the only way Idaho will impact the middle skills job gap.

Recommendation #5: Tie CTE to Industry Demand

Set up the incentive program so that a higher bonus weight is attributed to industries that are in high demand. States have worked closely with their Department of Labor to tag incentives for certifications to those jobs that are in the most demand in the state. In Idaho, workers in occupational therapies, nursing and advanced precision machinery are most in demand. Idaho should provide financial incentives so programs offer these courses that are highest in demand.

Principle #3: Focus on the needs of the student

Recommendation #6: Student Needs Assessment and Journey Map

Policymakers need a better understanding of student barriers and challenges to make sound policy decisions. There are a lot of assumptions about what students need and want. A study that talks to users and captures what they see are the barriers would be beneficial to informing policy decisions.

¹⁵ Interview with Lowell Mathews, April 20, 2017.

Recommendation #7: Invest in Wraparound Programs

Students need support and guidance through their career exploration journey. The state should invest in wraparound programs, such as counseling and career readiness, so students can make good decisions about their future with all the information available.

Recommendation #8: Invest in Technology

Invest in technology that enables students to explore career options. A good example is one from Idaho Business for Education (IBE) and the State Board of Education. They have developed an online, searchable database called FutureFindr. On FutureFindr students can explore their career options and learn more about what level of education is needed to obtain a career in a high demand industry in Idaho. FutureFindr will be housed on the State of Idaho's Next Steps Idaho website and be available to student on their mobile devices. FutureFindr will be available to students in the summer of 2017.

Recommendation #9: Financial Aid

Additional funding streams should be made available for adults seeking short-term education, resulting in an industry recognized certification. This would help with quick-wins in getting people out into the workforce with job-ready credentials.

Principle #4: Create Opportunities for Students to Continue Their Career Journey

Recommendation #10: Create Parity with Pathways

Provide the same financial incentives to CTE as what is provided to dual credit courses, and make district accountability systems provide equal reward for equivalent levels of CTE student success as academic student success. Schools should receive the same accountability credit for a student who attains an AWS Welding certification, an NCCER Electrician certification, a state nursing certification, or a cyber-engineering IT credential as they do for academic courses work. This parity would remarkably increase the number of high-quality, wide-ranging CTE programs.

Recommendation #11: Continue to Develop Articulation Agreements

The CTE Administrator is currently developing statewide articulation agreements between CTE high school programs and colleges. While this work has been challenging, it is essential in ensuring students have options statewide and that CTE credits are conferred.

Recommendations for CTE Programs

Recommendation #12: Promote Career Exploration in Middle School

Continue to promote academic and career exploration and coaching in middle school. For those programs that have made little to no effort in this area, there are interesting and creative examples from around the state. Starting the conversation earlier and helping students see and understand all of their options can only yield more informed students.

Recommendation #13: Develop Externships for Instructors

Create externships for instructors to help expand their knowledge and ensure they are staying abreast of industry trends. Modeled after Iowa's BEST program, require teachers to do an "externship" or "fellowship" with local industry during the summer. As part of the externship, instructors receive a stipend to work in an industry related to the field in which they are teaching. For example in Iowa, instructors conducted externships at John Deere headquarters or Pella Windows' corporate headquarters. This experiences helps teachers better understand the needs of industry, helps them gain professional development in their academic discipline and helps build a bridge between the local schools and industry that may lead to student internships.

Recommendation #14: Integrate CTE

Integrate CTE into all aspects of secondary and post-secondary education by offering internships, apprenticeships and career readiness as part of the general curriculum. Enable industry/employers, K-12 and post-secondary to offer work-based learning opportunities as part of the career academy or career-themed courses that leads to industry certifications.

An example of integrating CTE into student education is taking place at Clark Fork High School in northern Idaho. Students select a track, such as culinary, outdoors or technology, and then every Friday they work with local industry in their field of interest. This program has successfully blended academic coursework with student interests, opportunities for community involvement and teacher expertise and interest. As reported in the Idaho Education News, the principal said "We had no clue how successful this would be...[w]e are meeting the needs of our students."¹⁶

In addition, by engaging industry at the micro-level, use local mentor networks and online mentor networks to make sure that students engage with unfamiliar jobs to learn about the workplace. Most students have no role models in the professions they are interested in. By connecting students through other means, CTE courses are transformed into a place of personal discovery and life exploration. Seeing CTE as a pivotal part of getting students ready for the real world will help students prepare for the realities of post-secondary life, as well as ensure industry is getting the workers it needs.

¹⁶ <https://www.idahoednews.org/features/clark-fork-kids-spend-fridays-cooking-welding-painting/>

APPENDIX A – List of Interviewees & Survey Respondents:

Name	Affiliation
Dwight Johnson	Career and Technical Education (CTE)
Byron Yankey	State Board of Education
Ken Edmunds	Idaho Department of Labor
Todd Schwarz	College of Southern Idaho (CSI)
Linda Clarke	State Board of Education
Marie Price	Workforce Development, North Idaho College (NIC)
Evan Moore	Transition Coordinator, North Idaho College (NIC)
Christi Rood	College of Western Idaho (CWI)
Staci Low	West Ada CTE
Irene Westrick	Boise School District, Dennis Prof Tech Center
Pat Goff	Payette River Regional Technical Academy
Harold Nevill	Cossa Regional Technical Center
Dave Davies	Weiser High School
Lowell Mathews	Foundation for Excellence in Education
Jennifer Zinth	Education Commission of the States
Dave Lefkowitz	Government of Louisiana

List of Survey Respondents:

Nampa, Idaho Center of Advanced Technology
Boise School District, Dennis Professional-Technical Education Center
West Ada Professional-Technical Center
COSSA Regional Technology Center
Payette River Regional Technical Academy
Region II Professional-Technical Academy
KTEC - Regional Technology Center
College of Southern Idaho (CSI)
College of Western Idaho (CWI)
Gateway Professional-Technical School
North Idaho College

APPENDIX B – List of Post-Secondary Programs¹⁷

1. College of Southern Idaho, Twin Falls
2. College of Western Idaho, Nampa
3. Eastern Idaho Technical College, Idaho Falls
4. Idaho State University College of Technology, Pocatello
5. Lewis Clark State College, Lewiston
6. North Idaho College, Coeur d'Alene

¹⁷ <https://cte.idaho.gov/students/adult-students/technical-colleges/>

APPENDIX C – CTE Programs Offered in Idaho

Program	% of CTE programs that offer course
Nursing Assistance	90.9%
Automotive Technology & Collision Repair	81.8%
Welding	81.8%
Information Systems	72.7%
Fire & Emergency Services	72.7%
Business Administrative Support / Business Education	72.7%
Culinary Arts	72.7%
Accounting & Business Finance	63.6%
Building Construction	63.6%
Digital Electronics & Communications	63.6%
Sports Medicine/Occupational Therapy/Personal Trainer	63.6%
Marketing	63.6%
Computer Aided Design & Drafting	54.5%
Diesel Technology	54.5%
Photography	54.5%
Early Childhood Development	54.5%
Manufacturing/Fabrication/Precision Machinery	45.5%
Small Engine Repair	45.5%
Animal Sciences (i.e., dairy, equine, small animal)	45.5%
Ag Mechanics	45.5%
Greenhouse/Horticulture	36.4%
Programming and Software Development	36.4%
Education Assistance	36.4%
Law Enforcement	36.4%
Journalism & Broadcasting	27.3%
Aerospace Engineering	27.3%
Robotics	27.3%
Dental Assistance	18.2%
Pharmacy Tech	18.2%
Agribusiness	18.2%
Masonry	18.2%
Pre-engineering	9.1%
Food Products & Processing	9.1%
Hospitality	9.1%
Environmental Science	9.1%
Human Resource Management	9.1%
Cosmetology	9.1%
Family & Consumer Sciences	9.1%