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Industry Certifications: An Opportunity for CTE Educators

A White Paper presented by the Kentucky Association for Career and Technical Education (KACTE)

In March 2016, in response to an inquiry from Education and Workforce Development Cabinet Secretary Hal Heiner, the Kentucky Association for Career and Technical Education (KACTE) distributed two Survey Monkey instruments seeking answers to three questions:

- What industry certifications are most valued by employers in your area?
- What industry certifications are most needed to be offered through your school to serve your area's employers?
- What industry certifications are most in demand among your students?

For the purpose of this report, an industry certification is a recognized set of standard knowledge and skills an industry, or industry sector as represented by a professional or trade association, recognizes as predictive of success as an employee in that industry. The individual's mastery of that knowledge or skills is demonstrated in a measurable manner, such as an examination. In Kentucky, there currently are approximately 140 approved industry certifications listed on the Kentucky Department of Education website in a range of industry sectors from agriculture to transportation, and including new and emerging pathways. But not every potential job has a corresponding industry certification. Some industries require degree status, such as attorneys and physicians.

To qualify as an approved industry certification in Kentucky, a certification must meet the criteria for federal Carl D. Perkins Career and Technical Education Act accountability and the Career Readiness component of the Kentucky Department of Education College and Career Readiness accountability system.

1. Recognized, endorsed, or required by industry.
2. Written and verified by national or state industries.
3. Curriculum and certification aligned with state and/or national standards.
4. Certification must be an end of program assessment related to the student's identified career pathway achieved through a sequence of courses.

In addition to being a criterion for a student's qualification as Career Ready in the state's accountability system, industry certifications serve both individuals, the employer community and the economy. Qualifying individuals in theory have a track toward employment having demonstrated their knowledge and skill for work in a particular industry. The industry obtains an employee who theoretically needs less training and is more ready to be a fully productive contributor to its workforce. The economy benefits from more employment and higher productivity. Individuals can benefit from stable employment and standard of living. Society benefits from an efficient workforce and steady employment. Government benefits from reliable tax revenue.

Additional Research

At the same time KACTE sought input from its surveys, the Kentucky Department of Education Office of Career and Technical Education (OCTE) in cooperation with the Kentucky Workforce Innovation Board (KWIB) surveyed employers to determine what industry certifications were needed and valued that students could acquire and bring to the job. Also at the same time, the Kentucky Community and Technical College System (KCTCS) conducted an independent survey of employers seeking similar information. An obvious difference is the OCTE data reflects secondary education, and KCTCS reflects postsecondary education. According to information presented at an OCTE/KWIB Career and Technical Education (CTE) Business and Industry Task Force Meeting in Elizabethtown on May 12, 2016, the results were similar in both surveys regarding type of industry certifications needed and valued by Kentucky employers.

These two educational agency surveys capture data directly from employers and are better measures than the KACTE survey of employer needs and values regarding industry certifications. KACTE commends that data for direct employer input. This KACTE research report does not seek to reinforce nor replicate the OCTE and KCTCS data. Rather, it seeks to capture feedback from secondary Career and Technical Education (CTE) teachers and schools on industry certifications in their programs and locations. Analysis of the data collected raised some pertinent questions:

- What is the level of teacher knowledge about specific industry certifications?
- Do teachers understand exactly what is an industry certification and how it is used by employers in the hiring process? Do they know the big-picture value of industry certifications for individuals, students and the economy?
- To what extent are teachers interacting with employers to assess employer needs and then shaping their programs and instruction?
- What industry certifications are students requesting? Are teachers attentive to student requests, seeking the appropriate industry certification for each student and preparing the student to succeed on the exam?

One teacher comment addresses the questions raised in the analysis: "I think we need to look at our (education) workforce and educate them about industrial (sic) certification. If they can't pass the tests themselves, we have an issue! I have taught for 30 years, and I still take tests (and sometimes I fail them and have to re-study for them), but my feeling is that if I can't pass the test how can I teach a student what they need to know to pass the test? I think our teachers need to be industry certified themselves."

KACTE Surveys

Forty-two (42) responses from the two March Survey Monkey questionnaires were received from teachers (both KACTE members and non-members) representing 94 schools (high schools, locally operated career technology centers, and state operated area technology centers) from 26 counties across the state. The e-mails requesting responses were distributed to approximately 2,000 unique addresses. The responses were not consistent. Some were from a single teacher answering only regarding his or her teaching discipline. Some were submitted by school or district CTE coordinators or departments and cover multiple schools and multiple teaching disciplines. Forty-four (44) certification were cited.

The responses also were mixed in regard to the three questions. Some individuals indicated a single certification may be an answer to each question. Some responses may be citing a needed certification, not necessarily one that is offered in Kentucky. In presenting the results, the certification is listed, followed by the number of times it was cited, regardless of whether that was valued by the employer, in need of offering to students to serve the employer, or in demand from students. Regardless of which question the answer was intended, the responses indicate the industry certification is important for consideration to assist students gain skills needed for employment in the local workforce.

After review of the initial data, KACTE decided more input was needed. A new, but similar Survey Monkey instrument was designed, and attendees at the annual, statewide CTE Summer Program held in Louisville July 17-20, 2016, were invited to participate. About 1,500 teachers and administrators attended. Seventy-one (71) responses were received.

An obvious concern is the number of responses. Even in the unlikely event that each response across all three surveys was unique, the result is a total of 113 responses. The most generous calculation is responses were 7 percent of potential. The previously cited pertinent questions could be repeated here. The lack of response and the number of generic responses received could indicate a lack of awareness about industry certifications, particularly about the specific certifications needed and valued by employers in their area.

It is understandable that students may speak in generalities (e.g., I want to be a fireman.), but that student needs guidance to the specific industry certification that will help achieve that goal (Kentucky Certified Fire Fighter). It also is not apparent how many teachers are reaching out to employers in their localities in order to match or align instruction with available, local career options. It is not clear that there is an understanding of the importance of industry certification to an individual student's chance for success or the value to the local employer. As noted in numerous studies, a high school diploma seldom is sufficient preparation for a sustainable job in today's economy. More is needed, and it can start with an industry certification.

The responses further indicate confusion between curriculum and industry certification. One comment supports this: "We have heavy equipment, fire, ems (sic), and the education magnet. We also have business. I think we have it covered as far as industry goes." Although the question was asking for specific industry certifications, the response was generic and alluded to courses or curriculum. Other responses, such as "marketing and technology" and "health care, science/technology, logistics, IT" support the indication of confusion between curriculum and industry certifications.

Results of Surveys

The responses to the surveys are listed by industry or employment type. The first number is the response from the initial surveys. The second number is the response to the Summer Program survey, which included four questions: What industry certifications are most valued by the employers with whom you interact? What industry certifications are most needed to be offered through your school to serve your community's employers? What industry certifications are most in demand among your students? Do you have any suggestions for improvements or enhancements to the industry certification process? The second number reflects specific certifications cited in response to any of the four questions. In no sense, is this list presented as complete. It is a snapshot of industry certification need cited by teachers and schools.

Trade and Industrial Programs, 39 responses March surveys, 28 responses Summer Program survey, 67 total)
- Welding, 16, 13 (29 total)
  - AWS, 11, 10
  - DOT, 4, 3
  - CWI, 1
- Manufacturing, 15, 6 (21 total)
  - NIMS, 7, 3
  - OSHA 10 and 30-hour, 4, 1
  - CPT, 2
  - Solidworks CAD, 2, 2
- Construction, 8, 9 (17 total)
  - NCCER, 6, 8
  - EPA608-HVAC, 2, 1

Computer Technology, 35, 29 (64 total)
- MOS, 14, 19
- AutoDesk, Auto-CAD, 7, 2
- CompTIA, 3, 1
- IC3, 2
- CCNA/CCENT, 2, 1
- Apple ACA, 2

Adobe ACA, 1, 2
CIW, 1, 4
Revit, 1

Medical and Related Services, 29, 13 (42 total)
MNA, 7, 8
SRNA, 6, 2
CNA, 5, 1
Phlebotomy Tech, 4
Pharmacy Tech, 3, 2
EKG Tech, 2
EMT, 2

Early Childhood Education, 7, 8 (15 total)
CCCC, 6, 4
CDA, 1, 4

Culinary, 7, 6 (13 total)
ServSafe, 4, 5
ProStart, 2, 1
Food Handlers Card, 1

Automotive, 5, 7 (12 total)
ASE, 4, 7
CAIS, 1

Agriculture, 7, 2 (9 total)
NAVTA, 4, 1
Ag Mechanics, 2
Horticulture, 1, 1

Fire/EMS, 6 (no responses cited on Summer Program survey)
Kentucky Certified Fire Fighter, 2
NAED, 2
First Responder State Certification, 1
CPAT, 1

Business Services, 3, 3 (6 total)
A*S*K, 2, 3
CUNA, 1

Miscellaneous, 3, 1 (4 total)
Pre-PAC, 2, 1
NOCTI (criminal justice), 1

Teacher Opinions

To the March surveys, some respondents added comments on certifications and the needs of the educational system and students. They provide context to some of the responses.

"To me, there is a bigger and more pressing issue: How to save/support Kentucky's workforce? Many industries don't connect to an industry certification. They (employers) want to know content. Industry cares what we are teaching, yes; but they don't care what or often know what industry certification is attached. They want future employees with skills to wire a motor, build the wall of a house, or machine an engine part."

"The industrial certifications cost money -- some of the students cannot afford them. Perkins money -- nor school budgets -- can afford to pay for them due to keeping equipment up for all students."

"As a cooperative education instructor, employers are asking (if not begging) for students with employability skills, which is part of the skill set CTE students have. When employers find out students have passed the KOSSA (Kentucky Occupational Skill Standards Assessment) and 25 percent of that exam is employability, they are more willing to hire those students. Employers will train students in the specific area, but it is difficult to teach work ethic after they are accustomed to working when they feel like it. Multiple employers have said, hands down, FFA (agriculture) students know what it means to work and have the drive to be successful. This is true of CTE students in numerous programs. Agriculture is expanding certifications, but what holds many back from working with companies is the need to be 18, and many in high school are not 18 until midway through their senior year. We need to partner with companies to use 17-year-olds if they are certified. This would make a huge impact. It would also allow companies to have first chances at the top students."

Again, responses to the Summer Program survey indicated uncertainty, and there were near-identical answers to each of the questions from most respondents. The survey failed to obtain a sense of student demand. Responses to the fourth question asking for suggestions generated some valuable comments for possible exploration.

- Nine respondents cited the need for more financial support, not only to lower the cost for students to take industry certification exams, but also to support equipment, materials, and teacher training so the lessons are aligned with industry standards.
- Four additional respondents commented on the need for teacher training.
- Three additional comments cited the need to align curriculum and teaching standards with industry certifications.

Additional comments of note:

- Industry certifications should not require students to be preparatory.
- Businesses should stress the certification that matters most for the employees they desire.
- Every pathway needs an industry certification.
- More advertising to the public.
- Stick with one industry certification and stop changing every year.

Industry Certification Not the Only Answer

Some comments reflect that a singular devotion to industry certifications is not the only contributor to a student's potential to be a successful employee.

First is teacher quality. The teacher is the first responder in educating Kentucky's youth. That requires excellent teacher preparation (whether a university degree program or alternative preparation for those entering CTE teaching from industry), continuing professional development and recertification, and adequate tools (textbooks, software and equipment) with which to teach.

As noted in several responses, money currently is a limiting factor. Whether state or federal, fiscal resources face budgetary constraints forcing legislative and administrative decisions on where best to allocate resources. Professional development must be continuous and can be expensive. The use of certifications can be prohibitive due to cost or compromised by using a less rigorous or recognized -- but less expensive -- certification that may be meaningless to employers. Textbooks, software and equipment must be current to be effective teaching tools, and there can be significant costs involved in upgrades and new purchases. One example is biomedical in which credentialing boards require the latest textbooks for licensure or certification instruction.

A priority recommendation of the Kentucky State Board of Education for the 2016 Kentucky General Assembly session included additional funds for professional development, equalization of funding between locally operated career technology centers and state-operated area technology centers, and bond funding for equipment modernization and enhancement to meet current workplace demands. Although the first two request were not included in the 2016-18 biennial budget adopted by the General Assembly and approved by Governor Bevin, they remain a viable request supported by past studies (cited below). The General Assembly did approve Governor Bevin's and Secretary Heiner's proposal to issue $100 million in bonds to support CTE capital projects, including buildings, equipment and materials at both the secondary and postsecondary levels. Some promotional expenses may be permitted.

Investment in CTE is supported by a 2015 study, *First Things First*, by Thomas P. Miller & Associates. It made seven recommendations:

1. Base funding for CTE on state goals and business and industry needs;
2. Convene a committee to explore ways of funding CTCs and ATCs equally;
3. Provide adequate funding for CTE programs to accomplish state priorities ;
4. Create a proactive, intentional process of funding large equipment purchases and maintaining and/or upgrading current equipment ;
5. Allow locally operated centers and schools to set a budget for the entire school year;
6. Consider an additional per-pupil funding formula weight tied to state-prioritized occupational and program areas based on state and regional industry needs; and
7. Explore CTE performance funding.

Enhanced funding is necessary to fulfill the vision enacted by the Kentucky General Assembly in 2013 to merge the state-operated area technology centers into the Kentucky Department of Education, forming the Office of Career and Technical Education (OCTE). The 2014 SREB (Southern Regional Education Board) report, *From Two Systems to One World-Class System of Technical Centers*, detailed the policy, programs and funding recommended to achieve the vision. Historically, the vision reflects the conclusions of the 2003 Kentucky Legislative Research Committee Report #315, *Career and Technical Education in Kentucky*. The KWIB Sectors Strategy emphasizes the need for a skilled, quality workforce, which can be the product of an adequately funded, quality-staffed CTE system.

CTE for the Future of Kentucky

The 2012 Civic Enterprises report, *Career and Technical Education -- Five Ways that Pay*, points to the critical role of CTE in the United States. It cites 29 million "middle jobs" representing more than one-fifth of the American workforce. These jobs represent almost one-half of the nation's middle-class wages. As noted by James Stone, Ph.D., and the National Research Center for Career and Technical Education, middle-skill jobs are not exportable. They stay in the United States. They are the jobs that construct, make and repair the nation's infrastructure and provide hands-on, face-to-face people services. For the most part, CTE is the educational and training pathway for these jobs.

An August 18, 2016, article in the *New York Times*, "Middle-Income Jobs Finally Show Signs of a Rebound," supports emphasis on middle-skill education. "Between 2013 and 2015, employers added nearly 2.3 million workers earning from $30,000 to $60,000 a year, primarily in fields like education, construction, transportation and social services. That was roughly 50 percent more than in either the high-wage or low-wage categories during the same period," Nelson D. Schwartz wrote. He concluded the article with a quote from William C. Dudley, president of the New York Federal Reserve Bank: "This is an important development in the economy. If it were to continue, it would create more opportunities for workers and their families who have been struggling up to now."

In Kentucky, where the most in-demand workforce sectors identified by state agencies are advanced manufacturing; healthcare and social assistance; construction; business services and information technology; and transportation, distribution and logistics; the impact of middle-skill jobs is even greater than across the U.S. To compete economically, an investment in CTE is needed to establish a system in which industry certifications are widely recognized and accepted by students, parents, teachers and employers.

An organized marketing effort to convey this reality to all audiences will help build a consensus in support of CTE as beneficial to individuals, an improved standard of living, an enhanced business environment, and the state's economy.

Since formal education takes place in the classroom, a statewide professional development effort targeting teachers to simply explain industry certifications and demonstrate their linkage to individual and economic success could spur more interaction among teachers and employers and lead to better guidance and instructions for students. OCTE annually updates and distributes the list of industry certifications available to secondary students, but more may be needed for teachers to grasp the relevance of industry certifications. A brief document accompanying a short video could present a message from Governor Bevin or Secretary Heiner, a reinforcement from Commissioner of Education Stephen Pruitt, Ph.D., salient economic and employment data, and testimonials. A model could be the attached infographic produced by the Association for Career and Technical Eduction (ACTE), Arlington, VA, in cooperation with the national PTA. The value of industry certifications could be similarly highlighted.

Improving communication between "our education systems" and employers was cited as a priority by Kentucky Chamber of Commerce President and CEO David Adkisson when he addressed the Kentucky General Assembly Budget Review Subcommittee on Postsecondary Education in July 2016. As reported in the August 2016 *Kentucky Chamber News*, "Kentucky employers struggle to find people with the right skills for jobs they have available while job seekers encounter frustrations as they try to find the right job to match their skills. . . adopting approaches to education policy to improve communication between employers and our education systems would be highly beneficial. Adkisson was quoted in the article, "Strengthening these partnerships will lead to policies that help schools understand how to better prepare students for success and businesses understand how to effectively use existing programs."

The evidence from KACTE's surveys and other references clearly indicates that furthering knowledge among all audiences of the benefits accruing from industry certifications presents an opportunity to enhance student achievement and contribute to a robust economy. This is another opportunity for CTE educators to make a real difference.

The Kentucky Association for Career and Technical Education (KACTE) is a professional association based in Frankfort, Ky., representing teachers and administrators from all Career and Technical Education (CTE) teaching disciplines at all levels of CTE instruction. The KACTE mission is to develop and provide leadership and advocacy to advance Career and Technical Education. KACTE is a 501(c)(3) non-profit professional association with statewide membership among CTE educators in all program disciplines at all levels of instruction.

Association for Career and Technical Education ACTE

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Career and Technical Education Improves Student Achievement in High School, College and Career

Parents play an important role in their children's college and career success.

Here's why you should encourage your child to participate in CTE.

CAREER AND TECHNICAL EDUCATION (CTE)

ACADEMIC AND COLLEGE SUCCESS

80% of high school students taking both CTE and college prep courses meet college and career readiness goals, versus 63% who are college and career ready through college prep courses alone.[1]

600,000+ high school students enroll in dual-credit CTE courses to earn college credit.[2]

CAREER PLANNING

6 out of 10 students plan to pursue a career related to the CTE area they're exploring in high school.[3]

Students enrolled in **CTE** courses are significantly more likely to develop problem-solving, project completion, research, communication, time management and critical thinking skills during high school.[4]

EMPLOYMENT AND EARNINGS

36% **of STEM** jobs require postsecondary credentials that CTE students can obtain within two years of high school graduation.[5]

Graduates with technical or applied science associate degrees can out-earn bachelor's degree holders by $11,000.[6]

SCHOOL AND JOB SATISFACTION

81% of high school dropouts say relevant, real-world learning opportunities, like CTE, would have kept them in school.[7]

Graduates are twice as likely to be engaged at work if they had a meaningful internship or job while in college.[8]

My career tech class has enabled me to do something I love and opened my eyes to possibilities that are ahead. – Kelsey McClure[9]

I'm forever grateful to career tech. I have learned how to manage time and money, be more responsible and support myself while being reliable to other people. – Zachary Zigler[10]

[1] Southern Regional Education Board, [2] Thomas et al. 2013, National Center for Education Statistics, [3] NRCCUA® and ACTE 2016, [4] Lekes et al. 2007, National Research Center for CTE, [5] Rothwell 2013, Brookings Institution, [6] Schneider 2013, College Measures, [7] Bridgeland et al. 2006, Civic Enterprises, [8] Gallup-Purdue Index report, [9] Ohio Department of Education Career-Technical Education Success Stories, [10] Ibid.

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