



SEVENTH REPORT ON THE CONDITION
OF HIGHER EDUCATION IN OHIO

**Pre-K to Jobs: Higher Education's Role in
Developing Students for Careers**

Ohio

Board of Regents
University System of Ohio

John R. Kasich, Governor
John Carey, Chancellor



On June 23, 2014, the Board of Regents' Condition Report Subcommittee submitted the *Seventh Report on the Condition of Higher Education in Ohio; Pre-K to Jobs: Higher Education's Role in Developing Students for Careers* to the Chancellor for consideration. After review and discussion, the report was unanimously approved.

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Board of Regents

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John R. Kasich, Governor

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Honorable Governor John Kasich, Ohio Senate President Faber, Ohio House Speaker Batchelder, Ohio Senate Minority Leader Schiavoni, and Ohio House Minority Leader Heard,

With a clear focus on workforce development and the related need for well-educated and highly qualified Ohioans, the Board of Regents respectfully submits its Seventh Report on the Condition of Higher Education. This report, entitled ***The Condition of Higher Education in Ohio; Pre-K to Jobs: Higher Education's Role in Developing Students for Careers***, details the current condition and provides recommendations for the University System of Ohio to continually work alongside Ohio industry partners to ensure Ohioans have access to high-quality educational opportunities that lead to employability.

The report's recommendations are practicable, and through the further collaboration of colleges, universities, state agencies, and industry partners, move Ohio forward as a national leader in economic development through educational advancement. Across the state, innovations are occurring through program developments, partnerships, and student-centered approaches to education. ***The Current Condition of Higher Education in Ohio*** is focused on student success with a priority on completion of credentials that have meaning and value in the workforce.

In developing this report, the Board of Regents surveyed colleges and universities concerning career services for students, educator preparation practices, and Ohio Means Internships and Co-ops implementation. The data collected show widespread efforts to connect students to career paths, and identify areas on which institutions can focus to improve graduate transition into the workforce. The goal of the Board of Regents' Seventh Condition Report is to bring light to the best practices in place across Ohio, and to make recommendations to the Chancellor for continued enhancements and initiatives that can equip colleges and universities with the tools they need to continue their innovative approaches to foster and support student success.

Respectfully submitted,

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Chair, Board of Regents

Thomas Humphries
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Executive Summary

Ohio leaders have prioritized a clear and unambiguous goal to ensure the state has a robust, globally competitive workforce capable of meeting the current and future needs of Ohio employers. Reaching this objective will require the University System of Ohio (USO)¹ to successfully equip students with the relevant knowledge and skills that permit career advancement and meet the state's workforce needs. Closing the gap between the skills and knowledge USO graduates possess and the skillsets required by Ohio employers must be an issue of ongoing attention and innovation.

This skills gap is not exclusive to Ohio. There is worldwide evidence of tremendous difficulty in finding a sufficient number of qualified individuals to meet current and projected workforce needs. The needs vary by region and industry, but many employers specifically point to the lack of available talent in science, technology, engineering, mathematics, and medicine (STEMM²) related areas. There are also indications that job seekers lack the creative, critical thinking, and problem-solving skills businesses need to drive innovation, grow, and expand.

Addressing the skills gap has become an economic imperative for Ohio. Closing the gap is essential to maintaining Ohio's momentum in providing new opportunities and heightening the prospects for the state's economic prosperity.

The education-to-career pathways that postsecondary institutions provide, and the advising and career planning services offered, are essential to creating and sustaining a workforce ready to meet the needs of Ohio employers. However, none of this work can occur in isolation. Providing robust educational programs and career counseling for postsecondary students requires meaningful partnership with industry leaders. Governor John Kasich's Office of Workforce Transformation (OWT) is leading many initiatives targeted at creating a unified workforce system that supports businesses in finding the skilled workers they need, closing gaps between workforce readiness and delivery, and business growth and expansion needs. USO institutions are key partners in Ohio's workforce transformation efforts.

OWT has been instrumental in bringing together relevant stakeholders to identify workforce issues and explore strategies for change. Through these interactions, Ohio businesses have identified multiple strategies through which they can engage with USO institutions to forge more effective workforce and career strategies. These strategies include:

- Developing systemic communication mechanisms and partnerships to explore strategies to address current and evolving skills needs
- Establishing effective working relationships with higher education institutions' office of career services
- Developing more high quality co-ops, internships, and apprenticeship programs

1 The University System of Ohio is composed of 14 universities with 24 regional campuses, 23 community colleges, and more than 120 adult workforce education and training centers statewide.

2 Not all references to STEMM disciplines within the report include the medical field, and therefore appear as STEM.

The Seventh Report on the Condition of Higher Education

This report examines the status of college and university practices in skill areas that are important to preparing students for careers and the workforce. Some of these practices address the priorities expressed by Ohio businesses while other practices require modification to reflect current workforce demands. Beyond the assessment of current institutional practices, the report highlights statewide initiatives under way to address workforce gaps, and examines higher education's connection to those efforts.

The report does not call for a fundamental change to the core missions of USO institutions in conferring the knowledge and skills essential to the development of critically thinking, highly productive global citizens. The evidence informing this document highlights the need for expanded strategies in fulfillment of the vital role higher education plays in workforce and economic development. These recommended approaches encompass a broad range of academic and student support program design, delivery, and implementation. The report includes specific recommendations for increased collaboration between educational institutions and industry partners focused on a shared goal to align the educational opportunities in Ohio with industry needs for a skilled, knowledgeable workforce.

The six areas covered in this report are:

- I. Addressing the Skills Gap through Curriculum Design and Delivery
- II. Positioning Career Services as an Ohio Strategic Advantage
- III. Connecting Knowledge through Application: Co-ops, Internships and Apprenticeship Programs
- IV. Collaborations Designing New Tools for Education and Students
- V. PreK-12 Educators and Student Success in the Economy
- VI. A State Focus on Student Outcomes

Summary of Recommendations

I. Addressing the Skills Gap through Curriculum Design and Delivery

This section of the report defines the skills gap as viewed by Ohio employers and highlights the critical need to develop systemic communication mechanisms and partnerships between higher education and industry to examine and address skills gap issues.

Section I offers three recommendations:

1. It is recommended that the Chancellor and the Vice Chancellor of Academic Affairs meet with University System of Ohio provosts and chief academic officers to envision strategies to build ongoing, systematic mechanisms to infuse curriculum with industry-identified skills and knowledge requirements.

2. It is recommended that the Chancellor convene Ohio's community college presidents to explore the National Network of Sector Partners' (NNSP) work to inform efforts to create a strategic workforce delivery plan for community colleges in Ohio.
3. It is recommended that the Chancellor meet with USO presidents to discuss expansion of institutional support and leadership roles in support of collaborative state economic development and workforce goals.

II. Positioning Career Services as an Ohio Strategic Advantage

This section of the report examines the degree to which career services are incorporated as part of the strategic mission of USO institutions. The scope and student engagement with the career services offered, connections to business and industry, and new and innovative practices related to career services also are examined.

Section II provides nine recommendations:

1. Explore the feasibility of creating an academic requirement that students engage with career services
2. Research the feasibility of adding a performance metric for student engagement with career services into Ohio's performance funding formula for colleges and universities
3. Develop and execute an Ohio Career Conversation across industries
4. Develop and publicize Ohio Career Pathways
5. Broaden collection and reporting of employment data
6. Position *OhioMeansJobs* as the preferred jobs marketplace for Ohio students
7. Develop and implement model Ohio job preparation curricula
8. Integrate career services delivery into academic offerings
9. Define guidelines for institutional strategic prioritization of career services

III. Connecting Knowledge through Application: Co-ops, Internships and Apprenticeship Programs

Section III of the report provides an overview of the initial data from the state-sponsored *Ohio Means Internships and Co-ops* program (OMIC). Student and industry participation, academic concentrations of OMIC internships, and examples of successful institution programs are reviewed. This section also gives an overview of apprenticeship opportunities in Ohio and the future of the OMIC program.

Section III sets forth eight recommendations:

1. Diversify student populations participating in internship opportunities across Ohio institutions
2. Expand the majors/degrees or certificate areas offering internship programming across Ohio institutions

3. Expand partnerships with career centers
4. Explore joint Straight A-funded grants and College Credit Plus strategies
5. Utilize *OhioMeansJobs* as a connection platform for internship opportunities among students and businesses
6. Conduct regional strategy and best practice sessions across higher education institutions
7. Identify opportunities for support that will cement sustainability efforts on Ohio campuses
8. Award academic credit for co-ops and internships

IV. Collaborations: Designing New Tools for Education and Students

The fourth section of the report chronicles the work of the Ohio Board of Regents in conjunction with the Governor's Office of Workforce Transformation to build a comprehensive inventory of education and training programs offered in Ohio. The inventory will be mapped against employment opportunities available in Ohio. This inventory will be available to the public through a partnership with the Ohio Department of Jobs and Family Services, its *OhioMeansJobs* (OMJ) website, and the Ohio labor, career, and employment marketplace. Specifically, this section of the report chronicles the implementation of the Ohio Higher Education Inventory, and outlines the potential benefits of the inventory to students, industry and institutions of higher education.

V. Pre-K-12 Educators and Student Success in the Economy

Foundational to students being able to leave postsecondary education with strong, relevant skills is ensuring that they obtain college- and career-ready skills during their PreK-12 education. This in large part depends on the ability of educators to teach to high standards and make learning relevant for students.

This section of the report focuses on what teacher preparation programs are doing to prepare educators to teach to Ohio's PreK-12 learning standards. The section also explores methods and efforts to provide teachers with tools to utilize applied or contextualized learning techniques to make learning more relevant. This section further explores teacher preparation programs' readiness to work with other colleges within the institutions to assist teaching candidates develop career knowledge that can be used to incorporate career exposure and exploration within the context of their teaching. Finally, this section makes recommendations regarding the need for PreK-12 and higher education to work together and combine resources to expose more students to career possibilities at a much earlier stage of their development.

Section V includes four recommendations:

1. **P-16 Collaboration** - It is recommended that Ohio educator preparation providers engage in systematic collaboration with PreK-12 partners to assure alignment with the current needs of Ohio learners and requirements of Ohio schools.

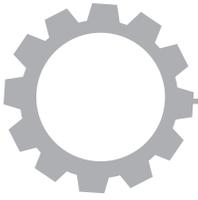
2. **Enhanced Licensure Program Standards** - It is recommended that the Chancellor enhance program standards for all Middle Childhood, Adolescence to Young Adult, and Multi-Age licensure preparation programs to include the delivery of content, access to information resources, instruction in careers, education to career pathways, and business and industry engagement strategies. In addition, it is recommended that the Chancellor's requirements for principal and superintendent preparation programs be amended to include a requisite focus on resource allocation that places a priority on the advising role of the school guidance counselor.
3. **Career Counselor Conference** - It is recommended that the Chancellor and the State Superintendent of Public Instruction collaborate to hold a career counselor conference for teachers, faculty, staff and leaders across the PreK-16 continuum. This conference should especially seek to engage counseling and advising staff.
4. **Alignment of Ohio Standards** - It is recommended that the Chancellor and the State Superintendent of Public Instruction enhance educator quality through continuous review of educator standards, school operating standards, educator preparation program standards, accountability reporting, and support and guidance for the professional community.

VI. A State Focus on Student Outcomes

In September 2012, Governor Kasich met with the leaders of Ohio's public colleges and universities, asking them to work together to propose a funding formula for higher education that rewards student success and completion. What resulted is one of the most comprehensive performance-based funding systems in the United States.

Ohio's establishment of a comprehensive completion and student success agenda and a state funding system based on student outcomes has raised expectations for dramatic increases in professional certificate and degree attainment. While the primary intent of the performance funding formula is to improve the efficiency, effectiveness and quality of Ohio's institutions of higher education, these initiatives are also an integral part of the state's overall workforce strategy to set a more integrated path between education outcomes and economic success for the state.

Over the course of the next year, a comprehensive set of metrics will be developed to track the effects of completion policies and performance funding being implemented at Ohio's institutions of higher education. This information will be analyzed against state workforce metrics to determine whether there are reliable correlations that can be made that will guide higher education and workforce policy moving forward.



Introduction

Ohio is taking dramatic steps to clearly define strategies to advance the economic health of the state through the development of accessible education and career opportunities that support Ohioans in their pathways to success. The state's economic health and the success of each Ohio resident are inextricably linked. Prioritizing pathways for Ohioans to gain knowledge and skills in pursuit of long-term success supports the state's goal to "ensure a seamless transition from K-12 to higher education and enhance Ohio's efforts to develop a workforce with the skills essential to meet Ohio's future workforce needs."³

While the responsibility for reaching this goal in Ohio cannot rest with one sector or area of government, the University System of Ohio (USO) must play a leading role in helping the state achieve this objective. The education and training needs of Ohio's current and future workforce will be held to a high standard by public and industry leaders. Labor economists estimate by the end of this decade, nearly two-thirds of all jobs will require some postsecondary education and training;⁴ and this growing need to produce more graduates is heightening the pressure on institutions. Ensuring that graduates of USO institutions possess the knowledge and skills needed to advance their lives and careers is essential to the future economic prosperity of the state.

A series of external forces, including a global economic downturn, increasing student loan debt, and growing business needs for qualified workers has intensified stakeholder demands that college graduates emerge with tangible, marketable, workforce-ready knowledge and skills. The increased needs that drive students, states, and nations to be competitive in a global economy require institutions of higher education to envision, design, and implement innovations to assure the preparedness of graduates.

For businesses throughout Ohio, the nation, and the world, the skills gap and access to aligned talent pools affect innovation, commercialization, productivity and other factors that make communities and economies grow. Across the globe, the most acute talent shortage has been reported in Japan, with 85 percent of employers facing hiring challenges.⁵ "In Greece where the jobless rate hovers near 30 percent, difficulty in finding talent remains higher than the global average, reflecting the loss of a number of skilled individuals who took their job search elsewhere."⁶

3 Office of Governor John Kasich. (21 Oct 2013). Media Room/Press Releases. *The Governor's Review of Higher Education Quality and Value*. Retrieved from http://www.governor.ohio.gov/Portals/0/pdf/news/Governors_Review_of_Higher_Education_Quality_and_Value.pdf

4 Carnevale, Anthony, Nicole Smith & Jeff Strohl. (June 2010). Georgetown University Center on Education and the Workforce. *Help Wanted: Projections of Jobs and Education Requirements through 2018*. Retrieved from <https://georgetown.app.box.com/s/ursjbxaym2np1v8mgrv7>

5 ManpowerGroup. (2013). Research Results. *2013 Talent Shortage Survey*. Retrieved from http://www.manpowergroup.us/campaigns/talent-shortage-2013/pdf/2013_Talent_Shortage_Survey_Results_US_10_0510.pdf

6 Ibid., ManpowerGroup, p.5.

In the United States, the need for graduates to possess relevant knowledge and workforce-ready skills is underscored by the following points:

- By 2020 employers worldwide could face a shortage of 85 million high- and medium-skilled workers.⁷
- According to one study, more than half of the 50,000 employers surveyed indicated difficulty in finding qualified candidates for job openings in 2012.⁸
- In 2013 the U.S. experienced a greater talent shortage than global peers; 39 percent of U.S. employers were facing difficulty identifying workers with the right skills.⁹

The widening gap between the talent needed in STEMM-related fields and the availability of qualified STEMM graduates is of particular concern to employers, including those in Ohio. New technological innovations are emerging at a dramatically accelerated pace. To remain competitive, businesses must adapt quickly to leverage new technologies to expand product and service offerings. The skilled workforce is required to meet demands of this highly dynamic and fast-paced environment, must include those with specific knowledge in STEMM-related fields. Labor forecasts highlight the need to increase STEMM-related skill development and produce more STEMM graduates:

- At least 8.6 million STEM-related jobs are projected to exist by 2018.¹⁰
- Science and engineering occupations are projected to grow at more than double the rate of the overall U.S. labor force through 2018.¹¹
- Only half of *Fortune 1000* talent recruiters say they can find adequate numbers of qualified job candidates with either two-year (55%) or four-year (50%) STEM degrees in a timely manner.¹²

The Ohio View

Governor Kasich has made workforce transformation a top priority for the state, focusing on the critical connection between jobs and economic growth. Ohio is among only a handful of states that has emerged as a national leader by creating an Office of Workforce Transformation (OWT), charged with creating a unified workforce system to support businesses in finding the skilled workers needed, closing gaps between workforce readiness, and assisting businesses to grow and expand. The work of the Governor's Executive Workforce Board, an advisory board of business,

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- 7 McKinsey Global Institute. (2012). *The World at Work: Jobs, Pay, and Skills for 3.5 Billion People*. McKinsey & Company. Retrieved from http://www.mckinsey.com/insights/employment_and_growth/the_world_at_work
- 8 The Chronicle of Higher Education. (2012). *The Role of Higher Education in Career Development: Employer Perceptions*. Retrieved from <http://chronicle.com/items/biz/pdf/Employers%20Survey.pdf>
- 9 Ibid., ManpowerGroup, p. 5.
- 10 Ibid., Carnevale, p. 52.
- 11 Office of Occupational Statistics and Employment Projections. (2012). *National Industry-Occupation Employment Projections 2008-18, Science and Engineering Indicators*. Bureau of Labor Statistics. Retrieved from <http://www.nsf.gov/statistics/seind12/c3/c3s.htm>
- 12 Bayer Corporation. (2013). *The Bayer Facts of Science Education XVI: U.S. STEM Workforce Shortage - Myth or Reality: Fortune 1000 Recruiters on the Debate*. http://bayerus.online-pressroom.com/bayerus/assets/File/Exec_Summary2013.pdf
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academic and community leaders, was also restructured and prioritized. The Governor called on the Board to focus on a common-sense perspective to make workforce reforms a priority. Blaine Walter, Board Chairman, summarized the Board’s work as follows: “We will help businesses and Ohioans succeed and, ultimately, improve the quality of life in Ohio.”¹³

USO institutions are key partners in Ohio’s workforce transformation efforts. The education to career pathways institutions provide, and the advising and career planning services offered are essential to creating and sustaining a workforce ready to meet the needs of Ohio employers. Providing robust educational programs and career counseling for postsecondary students requires meaningful partnerships between education and industry leaders.

The Board and OWT seek to assist in creating and sustaining this partnership, along with helping to identify the career pathways available to students in Ohio. Throughout the course of this work, Ohio business leaders have identified multiple ways educational institutions can engage in more effective workforce development strategies:

- **Career Services** – Business leaders believe that career service professionals in Ohio’s colleges and universities must expand career knowledge to gain a deeper understanding of the cultures of Ohio industry sectors. The goal of enhanced career services is to provide students with career information from a deeper well of material and also earlier in their education pathway. Business leaders have come forward to serve as partners in this effort.
- **Internships, Co-Ops, and Apprenticeship Programming** - Businesses have identified a need for students to engage in more experiential and applied learning opportunities. These experiences assist students in understanding what is expected in the work environment and also provides a great opportunity for students to evaluate the skills they possess against the skills that are required. Research further suggests that students who par-

Honda in Marysville, Ohio convened a meeting of 30 manufacturing companies to discuss workforce issues. Chief among the group’s concerns was the need for improved integration between industry and career services. There was consensus that improved integration between manufacturing and education could strengthen the tools and resources available to career services professionals as they inform students about the full menu of career paths available in the manufacturing industry.

The meeting went beyond identifying a need and moved into a planning phase, with business leaders expressing willingness to engage with career service professionals on a regular basis to assure that they are equipped with current, comprehensive information about career paths within Ohio’s manufacturing industry.

– Attendee, Cheryl Hay, Deputy Chancellor
Higher Education/Workforce Alignment
Ohio Board of Regents

Union County Chamber of Commerce. (2014). Computer Integrated Manufacturing Lab Program. Presentation to Private Investors. Retrieved from <http://www.unioncounty.org/wp-content/uploads/Presentation-CIMLP.pdf>

¹³ OhioMeansJobs. (2013). Governor’s Office of Workforce Transformation, Governor’s Executive Workforce Board – 2013 Annual Report. *Governor’s Office of Workforce Transformation*. Retrieved from <http://workforce.ohio.gov/Portals/0/pdf/Workforce%20Annual%20Report%20FINAL.pdf>

participate in internships and co-ops transition more seamlessly into jobs and are more attractive to employers.¹⁴

- **New Resources** – Industry leaders have asked what new strategies, resources, and tools can be deployed to better inform the plans of students, higher education institutions, and employers related to education-to-career pathways.
- **Curricula** – Workforce leaders want to interact with colleges and universities to discuss the preparedness of graduates, skills gaps, and the emerging needs for the new workforce. This interaction is not as robust or formalized as is needed for meaningful conversations that can inform curriculum design and delivery.
- **Skills** - Employers stress the need for employees to possess 21st century skills, typically identified as the ability to process large amounts of information; communicate effectively; work within teams; and identify and solve problems.¹⁵ Employers indicate that these skills make employees more innovative and successful, which leads to business growth. Current business dialogues indicate many Ohio graduates do not possess these skills at the levels needed to advance their own careers or their employers' goals.

93% of employers agree that candidates' demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than their undergraduate major.

—Hart Research Associates. (2013). *It Takes More Than a Major: Employer Priorities for College Learning and Student Success. The Association of American Colleges and Universities*. Retrieved from http://www.aacu.org/leap/documents/2013_EmployerSurvey.pdf

Ohio Institutions Respond

There are clear indications across the USO that institutions are hearing these concerns and taking action. Colleges and universities are addressing the need to produce more graduates through the development and implementation of completion plans. These plans outline clear strategies on each campus for supporting students through degree completion. In this process institutions are examining teaching and learning strategies and redesigning curricula when appropriate. More institutions are engaged in developing co-op and internship opportunities for their students. A number of institutions are strengthening their partnerships with business and industry to better understand and respond to workforce needs.

While there is evidence of progress in these areas, efforts across the system have been uneven and sometimes slow in execution. A balance must be struck between higher education's deliberative environment in effecting change and the urgency of action that is required to assist the state in meeting workforce priorities.

14 Maertz, Carl P. Jr, Jill Marks, Philip A. Stoeberl. (2014). Building successful internships: lessons from the research for interns, schools, and employers. *Career Development International*. (19.1), 129.

15 Brooks, Katharine S. (2009). Close the Gap Between the Liberal Arts and Career Services. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Why-Liberal-Arts-Need-Career/48973/>

Scope of the *Seventh Report on the Condition of Higher Education*

This report examines the status of college and university practices in several areas important to preparing students for careers and the workforce, mirroring some of the concerns expressed by Ohio businesses. Additionally, the report highlights Ohio initiatives under way to address workforce gaps and examines higher education's connections to such efforts.

This report does not call for a fundamental change to USO institutions' core missions to develop critically thinking, highly productive, global citizens. It does, however, highlight the need for expanded higher education strategies in support of the state's workforce and economic development and the long-term success of graduates and their families. Areas considered include highly effective practices, opportunities for improvement, potential systemic collaborations, and recommendations for moving forward.

The six topic areas covered in this report are:

- I. Addressing the Skills Gap through Curriculum Design and Delivery
- II. Positioning Career Services as an Ohio Strategic Advantage
- III. Connecting Knowledge through Application: Co-ops, Internships, and Apprenticeship Programs
- IV. Collaborations: Designing New Tools for Education and Industry
- V. Pre-K-12 Educators and Student Success in the Economy
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Addressing the Skills Gap through Innovation in Curriculum Design and Delivery

Nationally, the percentage of employers citing a talent shortage or a skills gap as a strong negative effect on business outcomes climbed from 13 percent in 2012 to 19 percent in 2013. Employers identifying these issues having a medium impact climbed from 29 percent in 2012 to 35 percent in 2013. Almost one in five employers facing talent shortages say skills gaps are having a serious effect on the organization's ability to meet client needs. Thirty-nine percent of employers report that talent shortages reduce competitiveness and productivity in general. Another 25 percent of employers state that talent shortages actually result in increased staff turnover, while another 22 percent say talent shortages can reduce creativity and innovation within their businesses.¹⁶

These data demonstrate the need for formalized, systemic integration between higher education institutions and business and industry. Defined workforce strategies are essential to the overall competitive strength of a state's businesses, and that strength relies on a workforce with knowledge and skills aligned with business needs. The creation of new products, processes, research, and commercialization delivering high value to consumers is dependent primarily on one thing—talent.

Economic development leaders throughout Ohio constantly engage with national and regional site selectors in an effort to attract new businesses to the state. Key to enticing a business to locate in Ohio is the ability to demonstrate that the locality has a sufficient number of degreed professionals, industry-specific and trade-trained certificate holders, and skilled workers to meet the business' needs. In assessing the potential future pipeline of qualified employees, economic developers examine education and business partnerships in the local area. In examining the existing pipelines, economic developers are looking for strong alignment between the local education delivery system and the unique needs of industries. Ohio's economic developers are responding to this same set of questions from existing Ohio industries in an effort to retain the businesses currently operating in Ohio.

Defining the Skills Gap

To understand and address the skills gap, common definitions are needed. Conversations between University System of Ohio (USO) institutions and hiring and supervising professionals yielded four characteristics commonly identified as part of the skills gap:

1. Insufficient Technical/Hard Skills

Insufficient technical/hard skills become apparent when graduates demonstrate inadequate industry-specific professional qualifications and/or combinations of skills required in a particular industry.

¹⁶ ManpowerGroup. (2013). Skilled Talent Shortages Persist. *2013 Talent Shortage Survey*. Retrieved from <http://www.manpowergroup.us/campaigns/talent-shortage-2013>

Businesses remain concerned that while students gain hard skills through educational experiences, those skills are not always in line with the realities of the current workplace.

Business leaders have identified a dramatic drop in the number of individuals seeking to gain technical skills and vocations. This trend may be related to outdated perceptions of manufacturing, logistics, and other viable career pathways. Educators and career counselors must have current knowledge of in-demand careers in order to help students choose a career pathway and understand which college degrees and credentials match the needs of the jobs marketplace.

2. Scarcity of 21st Century Skills

A key factor contributing to the skills gap is the lack of 21st century skills. Businesses lament that employees cannot problem-solve on the job, fail to work well in teams, struggle with using conflict resolution skills, cannot communicate verbally (including during presentations), and often lack relevant computer skills. Some educators state these skill sets are woven throughout the curriculum, yet a 2013 Gallup® survey¹⁷ reported only 11 percent of business leaders strongly agreed that graduating students have all the skills and competencies that businesses need. While a core set of technical skills is essential to every career, students must also attain the common set of skills needed across all jobs in all career fields. These common skills often include budget management and oversight, team building, marketing basics, presentation development and delivery, and business processes such as creating a request for proposals.

Ohio information technology (IT) industry professionals recently worked with a group of academic leaders to clearly define **current IT careers** and to identify **fundamental skills areas** in which graduates need stronger preparation.

Current IT Careers – Industry leaders advised educators that the industry no longer has a need for database specialists. The industry professionals specified that **database administrators** are in demand, and require a different set of skills than those for which the institutions were preparing database specialist program enrollees. The educators immediately took on the task of revising academic programs to reflect current industry needs, aligning students' preparation with in-demand careers.

Fundamental Skills Areas – Project management skills were identified as a core fundamental responsibility of any IT position. Industry leaders also emphasized the need for graduates to have the ability to understand business processes and integrate IT functions into those processes. Key elements in these essential skill sets are communication and critical thinking. Academic leaders are committed to embedding these skills within the academic programs.

—Information obtained from a partnership meeting between IT Industry Recruiters, Central Ohio Chief Information Officers, and Columbus State Community College.

17 Sidhu, Preeti and Valerie J. Calderon. (2014). Many Business Leaders Doubt U.S. Colleges Prepare Students: Few leaders believe U.S. colleges and universities are the best. *Gallup Economy*. Retrieved from <http://www.gallup.com/poll/167630/business-leaders-doubt-colleges-prepare-students.aspx>

3. Growing Demand for Prior Work Experience

Across industries, an increasing number of job openings require previous work experience. New graduates find that the lack of an internship, co-operative work/study experience, apprenticeship, or part-time or full-time employment in their chosen career field can make it difficult to be selected for a job interview. Employers cite the inability to find individuals with relevant experience levels as part of the skills gap. In many instances employers are seeking a highly specialized skill set, in which case the lack of experience may be the largest barrier for job seekers and businesses alike.

4. Industry Attractiveness and Credentialing

Businesses have identified a shortage of industry-specific and skilled trade certifications available in Ohio and nationally. The cause of this scarcity is two-fold: public-held perceptions of industries and the availability of training programs.

By way of example, 21st century careers in manufacturing require a much higher skill level than in the past, yet the overall perceptions of the industry are often outdated. As long as these inaccurate perceptions persist, individuals will not be attracted to these fields, feeding the continuing decline of available talent for these industries.

USO institutions have integrated some industry credentials into the curriculum, allowing students to easily transfer between institutions and move into career pathways. Postsecondary institutions are challenged to make progress in this work, as some industry credentials are created regionally by employer groups or via a national platform. The latter model is challenging to integrate into a state education system where common learning outcomes and validated assessment tools are needed to fulfill articulation and transfer guarantees for students.

The Liberal Arts are Part of the Skills Gap Conversation

Education pathways leading to success require the integration of career-technical and liberal arts/general education courses. Graduates who achieve their career aspirations possess strong technical capabilities and content expertise. In addition, graduates demonstrate strong cognitive and analytical skills, communication skills, and adaptive skills.¹⁸ This latter set of skills is developed through participation in robust liberal arts courses with an emphasis on transfer of learning, a concept describing how individuals apply a base of knowledge and skills in a professional setting with a wide variety of situations and opportunities to apply critical thinking.¹⁹

Effective delivery of liberal arts education helps students build connections between knowledge in mathematics, science, arts, social sciences, and language and a desired career or technical field. It is essential for students to understand the material as it relates to a future profession and life, and how it may impact their professional and personal interactions.²⁰ Business leaders consistently

18 Zeszotaarski, Paula. (1999). Dimensions of general education requirements. *New Directions for Community Colleges*, no. 108, Winter 1999, Jossey-Bass Publishers, p. 43.

19 Driscoll, Dana Lynn. (2014). Clashing Values: A Longitudinal Exploratory Study of Student Beliefs about General Education, Vocationalism, and Transfer of Learning. *Teaching & Learning Inquiry*, Vol. 2, Issue 1, p. 21.

20 *Ibid.*, Driscoll, p. 24.

cite the need for employees to demonstrate strong critical thinking and communication abilities, the skills and knowledge gained through a strong liberal arts education.

Addressing the Skills Gap through Systemic Communication and Industry Partnerships

Traditionally, academic institutions revitalize curricula through advisory councils composed of business experts who provide current industry knowledge to faculty for integration into academic programs. The nature of advisory councils differs between and within institutions, and varies by the roles of faculty, administrative leaders, and business partners. Department and college advisory councils provide an opportunity to inform faculty and career services professionals of the changing skills, training, and educational needs along with employment openings within industries.

Another approach through which USO institutions are developing valuable partnerships with industry to discuss skills gap and workforce needs is sector-based strategies. Sector strategies are “partnerships of employers within one industry that bring government, education, training, economic development, labor, and community organizations together to focus on the workforce needs of an industry within a regional labor market.”²¹ The strategies’ successes are documented through data showing direct benefits to participating individuals. Workers in sector-based programs saw their median personal earnings rise from \$8,580 to \$14,040 one year after receiving education and training, and to \$17,732 after two years.²² Other measures of success include reduced turnover and rework.²³ While proven successful, sector strategies are difficult to establish and sustain. Observations from national sector strategies show that “states need to align policies and funding streams around new priorities across the education, workforce, and economic development systems; multiple agencies; and various levels of government.”²⁴

One excellent example of a successful sector strategy is found in Ohio’s insurance industry. To lead this effort, Governor Kasich seated a Chief Executive Officer (CEO) Task Force to clarify and make recommendations related to business environment issues for the insurance industry. One outcome of that work was the development of the Insurance Industry Resource Council (IIRC), charged with developing a talent plan for the insurance sector.

A recent workforce study for the insurance industry indicated a need for 26,000 Ohioans to fill insurance jobs by 2020, necessitating a growth rate of 7.1 percent for the industry over the next six years.²⁵ These needs include the projected retirement of 25 percent of the current insurance workforce in Ohio by 2016.

21 State Sector Strategies Coming of Age: Implications for State Workforce Policymakers. (2013). *Corporation for a Skilled Workforce, National Skills Coalition, National Governors Association Center for Best Practices*. Retrieved from <http://www.nga.org/files/live/sites/NGA/files/pdf/2013/1301NGASSSReport.pdf>

22 The Aspen Institute. (2002). Working with Value: Industry-specific approaches to workforce development. *The Sectoral Employment Development Learning Project*. Retrieved from <http://www.aspeninstitute.org/sites/default/files/content/docs/WORKWITHVALUESYNTHESIS.PDF>

23 Lea, Cathryn. (2004). BEST Benefits: Employer Perspectives. *Research and Evaluation Brief*. (2.4) 3. Retrieved from <http://www.insightcced.org/uploads/nnsf/BEST%20Benefits%20-%20Employer%20Perspectives.pdf>

24 State Sector Strategies: Regional Solutions to Worker and Employer Needs. (2006). *NGA Center for Best Practices, National Economic Development and Law Center, Corporation for a Skilled Workforce*. Retrieved from <http://www.nga.org/files/live/sites/NGA/files/pdf/06STATESECREG.PDF>

25 LaFayette, Bill. (2013). Insuring Ohio Futures- Workforce Characteristics and Workforce Development in Ohio’s Insurance Industry. *Regionomics*, p. 2.

The IIRC identified a need for more industry-specific insurance education programs in Ohio, in addition to a lack of awareness among potential job seekers of the breadth of careers available in the insurance industry. The IIRC took ownership of creating a strategy to market its career path to potential new and replacement hires for their industry. Collaborating with postsecondary education partners, insurance industry representatives worked through the Ohio Board of Regents to identify schools with potential to meet industry needs, with both universities and community colleges responding.

To raise awareness of careers in the insurance sector, the IIRC worked with several companies, which committed a portion of their recruitment budgets and invested in an Insurance Careers Campaign. The campaign included development of a web portal featuring career maps on a broad set of insurance careers. The career maps provide a one-page snapshot of wages, labor projections, required education, and skills required, all validated by the Ohio insurance industry (*Appendix B.1*).

The shared efforts between industry and education institutions are bringing positive results. Less than two years after the launch of the insurance sector's talent strategy, Kent State University (KSU) has Ohio's largest insurance and risk management program with 68 students enrolled as majors. The University of Cincinnati (UC) also launched an insurance program and hosted the Insuring Ohio Futures program (www.insuringohiofutures.com). Columbus State Community College formed an insurance advisory team of more than 20 insurance professionals to work with the college on the development of an insurance certificate. Bowling Green State University (BGSU) is now engaged with IIRC to determine how the Insuring Ohio Futures program can help elevate the launch a BGSU degree program.

By banding together to address workforce issues, the insurance industry supported the development of a plan, invested in creating an image around the multiple insurance industry careers available, and engaged with postsecondary education providers to design and launch insurance-specific academic programs.

Developing A Curriculum (DACUM) has proven to be another effective collaboration strategy for industry and higher education. Facilitated by The Ohio State University, DACUM is a process used to identify knowledge, skills, and abilities for particular jobs with the findings later integrated into curriculum. DACUM consists of a one- or two-day storyboarding process that provides a picture of a worker's duties, knowledge, skills, traits, and tools. Business advisory boards for curriculum development and the use of the DACUM process have been solid means for ensuring curricula at USO institutions are infused with real-world application dynamics.

In a focus group, Inter-University Council of Ohio (IUC) Career Services representatives reported that part of the challenge of infusing education curriculum with business input is the constantly changing landscape of the workplace. In order for USO institutions to stay abreast of current industry demands, strategic, intentional communication mechanisms are needed to highlight the skill needs that inform curriculum content, design, and delivery. These mechanisms require frequent, systematic, strategic partnering between educators and industry representatives to keep pace with changing workplace dynamics.

Institutional Collaborations Leading to Curriculum Change

- **Case Western Research University (CWRU)**

CWRU's Department of Materials Science and Engineering revised its undergraduate curriculum to (1) demonstrate the relevance of STEMM undergraduate education; (2) connect students with practicing engineers and manufacturing companies in Northern Ohio; and (3) emphasize hands-on and problem-based learning. First-year students who have completed independent computer-aided designs use novel additive manufacturing methods and on-campus metal processing equipment to produce sand molds that are then invested in a bronze alloy supplied by corporate partner Federal Metal.

- **The Ohio State University (OSU)**

OSU and its partners have implemented course redesign, student research internships, and mentoring initiatives. To address the need for a workforce with stronger analytical skills, OSU and IBM are leveraging the IBM Client Center: Analytics Solutions Lab, a new advanced analytics center in Columbus, and collaborating on new business and technology curricula to help students gain the latest skills in analytics and prepare for high-value jobs in the future. New courses of study have been developed at the undergraduate and graduate levels that will include access to the Center's technology assets and thought leaders. As part of its Academic Initiative, IBM is providing OSU with curriculum materials, relevant case studies, and access to a wide spectrum of software solutions, IBM guest speakers, and faculty incentives to accelerate program development.

- **C-TEC: Career and Technology Education Centers**

In 2007 the Ariel Corporation sought out a post-secondary training provider that could deliver curriculum development, implement in-house training and have capacity to train at the school 24/7. C-TEC was able to respond to the company's request by dedicating curriculum designers and trainers to meet the needs of a Pre-employment Training Program, a Machinist Training Program, a Supervisor Training Program and most recently a Compressor Precision Assembly Training Program. More than 600 employees have been involved at some level of these training programs to date. Ariel built two labs at C-TEC (machining and assembly) requiring large donations of capital equipment and talent. To date more than 1,000 hours of curriculum have been written, produced, and delivered. The company's growth will continue to offer the partnership opportunities to expand into other training areas such as maintenance and mechanic schools for the oil and gas industry.

- **Columbus State Community College (CSCC)**

Honda in Marysville, Ohio worked with CSCC to address industry needs for maintenance and technical engineering expertise. The college then held meetings with sixteen additional manufacturers in the central Ohio area to review the curriculum first devised with Honda to ensure it would also meet the talent needs of the larger manufacturing industry. This collaboration led to the implementation of a summer institute to increase high school student interest in manufacturing career pathways. Students attending the institute represented the following schools: Metro H.S., Northland H.S., Worthington Kilbourne H.S., Thomas Worthington H.S., Lyndon McKinley H.S., Columbus City East H.S., Marion Franklin H.S., Fort Hays Career Center, Miami University, University of Toledo, and CSCC. Specifically,

students learned that modern manufacturing jobs are 1) high-tech, 2) high-skill, and 3) high-pay; that the manufacturing industry needs candidates who are intelligent, intellectually curious, and possess good manual skills. Five of the fifteen participants in the first institute registered in a five semester, multi-craft maintenance pilot program at CSCC, which includes an intensive work-study program at Honda. A continued partnership between CSCC and Honda, along with others, will lead students to success and also meet the needs of central Ohio manufacturing businesses.

- **Medina County Career Center (MCCC)**

Automation Tool and Die, Inc. (ATD) in Brunswick, Ohio began working with MCCC on talent needs, and to share information on industry needs and career pathways with high school counselors in the local county and manufacturing instructors, enabling all to have real-time data about career and technical skill requirements. Through this work with MCCC, ATD has developed a draft plan for how to interact with and support education. This support includes field trips for students, speaking in classrooms, and working with instructors on skill needs. ATD's collaboration with MCCC has also led to the development of the Medina County Manufacturers Training Consortium (MCMTC) to integrate industry needs with education delivery and participation.

Recommendations for connections between institutions and industry for curriculum development:

USO institutions, industry partners, and state leaders are pursuing and implementing strategies to better connect academics around skills gap issues. Some of those have been mentioned here. Yet more than one out of five employers report that they are currently doing nothing to remedy the skills gaps as they don't know how to effectively solve the issue. The following are recommendations to narrow the skills gap in Ohio:

1. **Provost Skills Gap Initiative** – It is recommended that the Chancellor and the Vice Chancellor of Academic Affairs meet with provosts to envision strategies to build ongoing, systematic mechanisms to infuse curriculum with business skill requirements. This will include identifying and scaling up effective practices, developing an expanded outline around the role of advisory boards, and developing a shared skills gap data bank as a reference for faculty and other curriculum designers.
2. **Workforce Strategic Planning** – It is recommended that the Chancellor convene Ohio's community college presidents to explore the National Network of Sector Partners' (NNSP) work on creating a strategic workforce delivery plan for community colleges in Ohio. As the national association for sector initiatives, NNSP provides an opportunity for Ohio to develop sector strategies.
3. **Campus Presidents** – It is recommended that the Chancellor meet with all USO university presidents to discuss expansion of leadership roles and institutional support of overall state economic development and workforce collaboration goals. It is recommended that these discussions include institutional representatives who can connect with business representatives to engage in dialogue regarding talent pipelines to enhance business performance and regional and statewide economic development goals.



Positioning Career Services as an Ohio Strategic Advantage

Colleges and universities were founded to advance knowledge through research and teaching while developing responsible, enlightened, productive citizens that gave back to their communities, state, and nation. In the 21st century, those foundational concepts still hold true. However, while much has stayed the same, the local, state, national, and global environments in which those goals are met have changed.

Through greatly increased access and a heightened demand for career preparation, the landscape of higher education stakeholders and the outcomes they desire have expanded. The economic and life situations that consumers of higher education and their communities face place increasing pressures on colleges and universities to further broaden access; serve diverse populations through varied settings and delivery models; answer questions on quality and value; redesign course delivery to meet multiple goals; partner more broadly with the larger community; develop financially stable institutions that are more self-sustaining at a lower cost; and shoulder responsibility for student career choices and employment outcomes.

If there is any area of education for which multiple constituents hold high expectations and outcomes in the landscape described above, it is career services. Whether provided through the pre-K-12 system, a career center, community college, or within the university setting; education leadership is struggling to redefine the overall structure, role, and impact desired from this service.

States, educational institutions, foundations, and policy think tanks are all working to identify optimal ways to deliver career education, career coaching and assessments, and guided connections to the world of work that accumulate in high-touch, student-centered career services functions.

Job seekers need information on 21st century strategies for aligning search efforts with relevant opportunities to their knowledge and expertise. The highly automated recruitment process now in place utilizes resumé keyword searches and electronic skill/job match technology. Yet, individuals often apply for jobs for which they are not qualified in hopes they will be considered for other available positions that match their skill sets. This strategy, grouped within a haphazard approach,²⁶

2011 Adecco Graduation Survey

Telephone survey of 503 recent bachelor's degree graduates, age 22 to 26:

- 71% wished they had done something different to prepare for the job market.
- 26% felt they should have started preparing for the employment process earlier.
- 29% expressed regret at not having spent more time networking.
- 26% indicated they should have applied for more jobs.
- 43% were currently working at a job that did not require a college degree.

26 Koen, Jessie, Ute-Christine Klehe, Aujkje Nauta, Annelies E.M. Van Vianen, Jelena Zikic. (2010) Job-Search strategies and reemployment quality: The impact of career adaptability. *Journal of Vocational Behaviour*. (77). 127-128.

is common in difficult economic times, and occurs because few job seekers understand how the current job marketplace operates.

To date, enhancements to career service functions have focused on innovations in services provided to students, including more online access, use of social media and videos, and enhanced physical location of career service access points. All of these enhancements provide creative and needed service redesigns; however, institutions have been slow to integrate career services within education delivery systems. Students have also been slow to utilize the services offered; recently, fewer than 33 percent cited a use of the college career center before graduation,²⁷ and 71 percent wish they had prepared for the job market differently.²⁸

Career Services in Ohio – Overview

All USO institutions offer career services to their students and alumni. The nature, extent, and breadth of services vary from institution to institution depending on the mission, resources, and industry partners. The Ohio Board of Regents surveyed the Ohio Technical Centers (OTCs), community colleges, and universities between November 2013 and January 2014 to gather qualitative and quantitative data on career services activities and outcomes. The survey questions explored when and how students engage with career services, the types of activities offered, the institution's outreach to industry partners and stakeholders, the data requirements, and resources available (*Appendix B.2*). All of the community colleges and universities, and 92 percent of the OTCs responded to the survey.

Ohio Institutions - Delivery Model and Administration

Administration of the career services function falls within Student Affairs at more than 85 percent of Ohio's colleges and universities. Most OTCs house career services in the combined Student and Academic Affairs Divisions, a model likely attributable to their relatively small size with few administrative units. On a national basis in 2013, around 80 percent of career services reported centralized operations and more than 50 percent fell within the student affairs division.²⁹

USO institutions organize career services in a variety of delivery models. Some are housed centrally, while others are provided through individual academic units, and some have a blended model of centralized and distributed services. The vast majority of career services offices are organized with a central office location serving students, business, and faculty. This delivery model is

27 Godofsky, Jessica M.P.P., Cliff Zukin, Ph.D., Carl Van Horn, Ph.D. (2011). Unfulfilled Expectations: Recent College Graduates Struggle in a Troubled Economy. *WorkTrends: Rutgers John J. Heldrich Center for Workforce Development*. Retrieved from http://www.heldrich.rutgers.edu/sites/default/files/content/Work_Trends_May_2011.pdf

28 The Adecco Group. (2011). Majority of "Generation R" graduates with they have applied for more jobs and started their job search earlier. *Adecco College Graduate Survey*. Retrieved from <http://www.adeccousa.com/articles/Adecco-College-Graduate-Survey.html?id=181&url=/pressroom/pressreleases/pages/forms/allitems.aspx&templateurl=/AboutUs/pressroom/Pages/Press-release.aspx>

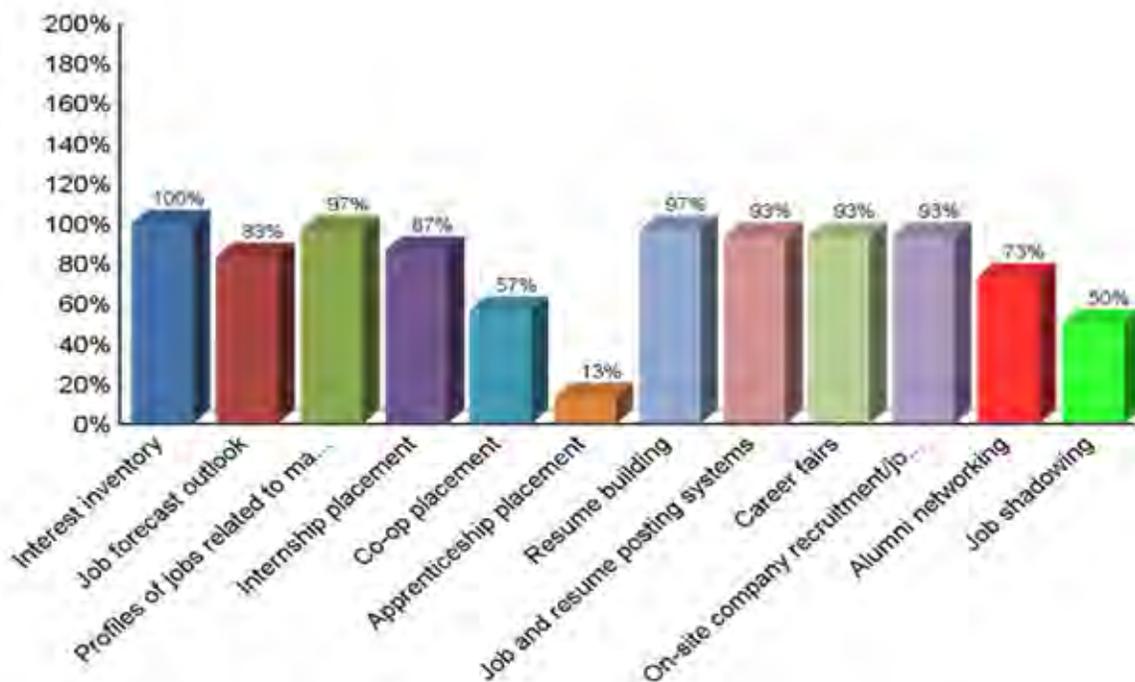
29 NACE. (2014). Executive Summary: NACE 2013-14 Career Services Benchmark Survey for Colleges and Universities. *National Association of Colleges and Employers*. Retrieved from <http://www.naceweb.org/uploadedFiles/Content/static-assets/downloads/executive-summary/2013-14-career-services-benchmarks-survey-executive-summary.pdf>

often a reflection of the size of the institution and available resources. While the centralized model is more prevalent, decentralized models have been found to provide career services staff with deeper knowledge of industries, careers, and majors. The blended model is used in some universities, targeting resources to individual academic colleges, most often business and engineering. For some smaller institutions, survey respondents described decentralized delivery as the current practice to serve students and businesses. Both nationally and within the Ohio survey, respondents reported that decentralized delivery can confuse students about what doorway to use and may stretch academic resources related to the strategy of how institutions market the service to students.

Service Offerings

The survey of USO institutions indicated the most common activities delivered by career services professionals across the three types of institutions are as follows: delivery or access to personal and career interest inventories; job profiles; and resumé assistance. Responses, while varied, demonstrate that every post-secondary institution is guiding students toward careers and work. Work-based learning is a priority for the community colleges and universities, with 87 percent of the career services offices assisting with interactions such as internship placement.

OHIO COLLEGE AND UNIVERSITY CAREER SERVICES: Most common delivered services



OTC survey results mirror closely those of colleges and universities. The top three reported OTC activities directly connect students to employers through career fairs, job and resumé posting, and resumé-building activities. However, career services personnel reported spending the majority of their time on job search activities such as resumé writing and interviewing skills. None of the respondents indicated spending the majority of their time in discussions with students about career selection. Career services professionals indicated that searching for and assembling career path information to share with students is time consuming.

Strategies and Goals

Focused education-to-job strategies are prevalent in the OTCs, which serve adult learners. OTCs place a high priority on directly connecting students to businesses. OTC educational delivery is focused on certificates and credentials enabling students to start a career with options to grow. The larger goal is to make students more competitive job candidates, and provide the flexibility to transition to other postsecondary institutions if desired by the student.

Career preparation and planning is a common theme of most campus career service office mission statements. For example, at Cleveland State University the career services mission includes a commitment “to enhance CSU’s contribution to northeast Ohio’s economic stability by providing local employers with more skilled employees, particularly in key growth industries.”³⁰

The majority of career service offices at USO institutions are members of the National Association of Colleges and Employers (NACE). Members use the data available through NACE to inform current and future strategic direction.³¹ Established in 1956, NACE membership includes representatives from 2,000 colleges and universities and more than 3,000 human resource professionals.

Challenges

Operational – Survey respondents point to small budgets, the low ratio of career counselors to students, data reporting, and location as operational challenges. In some instances the career services office is hard to find, not centrally located for students, and in some cases is too small to support service delivery on a larger scale.

Survey results showed that 16 campuses utilize the Simplicity System as a customer relationship management (CRM) tool. The remainder of the respondents report having a variety of software platforms for managing services and tracking information. Almost all institutions utilize a unique job posting system, local in nature and run by the campus. Many campuses report spending a great deal of time researching job classification-specific data related to career entry points, career ladders, and salaries. The varied approaches and under-utilization of available statewide tools for these services strains the fiscal and human resources on each campus and yields less than optimal results for students.

30 Ohio Board of Regents Career Services Survey. (2013). Cleveland State University Report.

31 NACE. (2014). About the Association. *National Association of Colleges and Employers*. Retrieved from <https://www.naceweb.org/about-us/index.aspx>

Marketing the Function to Students - Because it is not mandated that students use the career services function, marketing the services to students is a large focus of the duties of those in the office. A majority of USO institutions mention marketing as a major challenge. An emerging tactic to meet this challenge is a more aggressive use of social media, videos, and technology to deliver career preparation for job searching, career news, and other career-related services. Institutions made gains in attracting students to career services by utilizing e-mails, text messages, and social media in combination with traditional means such as announcements, posters and handouts. Adding social media along with vibrant up-to-date websites is one of the best practices identified by the NACE standards.³² Colleges and universities are using web pages to promote events with specific companies, upcoming meetings covering such topics as resumé building and how to use LinkedIn,³³ and work-based learning experiences.

Institutions report positive initial results from deployment of social media, but larger schools say the medium is bombarding students with information about a wide spectrum of institutional services, and students have become immune to electronic messaging.

Student Utilization of Career Services - The Ohio Board of Regents has repeatedly heard from career services professionals that *students don't do optional*, yet very few campuses require students to interact with career services. The most common model relies on students independently seeking out career services assistance, which has produced disappointing results. In response to under-utilization of career services, some Ohio campuses are focusing on how to move from a transactional relationship with students to a more planned strategy with intrusive touch points.

Lorain County Community College includes its career MyCAP portal in its new student orientation. Clark State Community College offers an employability skills class. Columbus State Community College (CSCC) is diversifying its strategy. At CSCC, student interactions will be conducted by the career services office. A new unit focused solely on student job placement and partnering with businesses to fill their open positions and talent needs will launch in July of 2014. Rio Grande Community College mandates that students visit the career services office as part of their graduation process.

Ohio University (OU) offers a variety of career development courses that are completed by hundreds of students across a wide range of academic disciplines, most intensely in the College of Arts & Sciences. Through the creation of its Career & Leadership Development Center (CLDC), OU has increased the amount of out-of-course experiences to which students have access during their undergraduate time at OU. The types of experiences coordinated by CLDC may include internships, co-ops, volunteer work, or work study. The College of Business requires all undergraduates to complete an internship experience to make sure students are career-ready. In addition, students are developing e-portfolios to communicate their academic and career experiences to employers and/or graduate-professional schools. The College of Arts & Sciences created a faculty learning community that infused e-portfolio utilization in course content to allow students to showcase skill acquisition and career readiness.

32 National Association of Colleges and Employers. (2013). Professional Standards for University Relations and Recruiting. *NACE Foundation, National Association of Colleges and Employers*. Retrieved from <https://www.naceweb.org/recruiting/professional-standards-for-urr.aspx>

33 Simko, Timothy. (2014). Liberal arts alumni give career advice: Panelists outline professional opportunities after graduation from CSU. *The Cleveland Stater*. Retrieved from <http://www.csuohio.edu/class/com/clevelandstater/Copy/151008.html>

Just in Time Nature of Students Using Career Services - Students often make academic and career choices without formal career guidance, and they also rarely seek solid career information or career selection assistance when making the decision to change their majors.³⁴ Survey results show 70 percent of Ohio institutions report this connection as an issue, and all Ohio career service offices state there is a need to reach students early in the process of their academic journey on campus; however, career counselors report that career counseling is not currently among the top three activities they perform.

The most common student approach in accessing career services is to drop in without a scheduled appointment. Survey respondents commented on the risks of reacting exclusively to a student drop-in strategy and the impact created in attempting to handle individual needs with constrained staffing and budgets. Frequently, students arrive at career services as they prepare for job interviews with little knowledge of career pathways, presentation techniques, or interview skills, placing a heavy demand on career service offices to provide accelerated, intense support for students on a deadline.

Undeclared Majors - Undecided students represent a large student population that career services struggles to reach. With a lack of clear career goals, a student's academic studies may be haphazard and leave a student disappointed upon graduation, without a career, and saddled with student loans. Institutions have varied approaches to working with undecided students. At Northwest State Community College, undecided students receive direction on how to use career discernment tools and assessments through the college's Vault system.

In addition to undecided students, USO institutions serve increasing populations of career changers and non-traditional students with family and community responsibilities. These populations require focused career services efforts and counseling time. There is an increased emphasis on meeting the needs of non-traditional students across Ohio as the state works toward its goal that 60 percent of Ohio adults age 25 to 34 hold a college degree by 2025.³⁵ In many cases, career services professionals are working with non-traditional students who are degree holders facing an unexpected need to change careers.

Faculty - Campuses successfully embedding faculty interaction with career services have produced good outcomes by broadening the reach of career services for students. Some USO institutions employ this embedded model, but it is not a common practice statewide. There are concerns with this model as limiting the time available to faculty for delivery of academic content. Some faculty also question the need to embed career connections in the academic enterprise of the university.

The case can be made, however, that faculty is uniquely positioned to embed career connection strategies into the courses focused on the skills and knowledge needed in specific careers (*Appendix A*). In the institutions that have achieved effective integration of academic and career

34 Cuseo, J. (2005). Decided, undecided, and in transition: Implications for academic advisement, career counseling, and student retention. *Improving the first year of college: Research and practice*, 27-48. Retrieved from <http://www3.uwsuper.edu/HLC%202013%20Resource%20Room/Academic%20Affairs/Academic%20Advising/Undergrad%20Acad%20Advisement%20Minutes%202010-2011/Article%20Joe%20Carusso%20Decided%20Undecided%20implications.pdf>

35 Lumina Foundation. (2013). A Stronger Ohio Through Education. *The Lumina Foundation*. Retrieved from http://www.luminafoundation.org/stronger_nation_2013/downloads/pdfs/ohio-brief-2013.pdf

services for students, the career service professionals provide faculty with current career materials to share with students. The career services staff also offers professional development and curriculum integration strategies for faculty. Beyond their engagement with enrolled students, faculty members are uniquely positioned to interact with alumni through mentoring, preparing letters of recommendation, and knowledge resources. Their knowledge of jobs within a region and personal connections with businesses can be a valuable resource as a student transitions to and through a career.

Sinclair Community College career services staff members meet with faculty every semester to discuss changes in programs. Faculty members are frequently called upon to answer specific technical questions in the career advising process when students seek program-specific knowledge. Career services and academic advising staff also collaborate to discuss new or changing programs and courses. Faculty is often also invited to participate in industry visits as well as on-campus recruitment activities.

Many USO institutions provide regular updates to faculty on job opportunities, many of whom share that information with students during class, office hours, or through electronic communication. There are highly effective practices taking place in Ohio's colleges and universities: the University of Akron Career Services Office proactively connects with faculty to build support for the University's goal of 80 percent career placement for graduates within six months of graduation. Stark State Community College Career Services relies on its advisory committee composed of human resource professionals in the region. Focused conversations between business, industry groups, and educators have led to changes in Stark State's curriculum and services related to careers, skills, and job preparation. Kent State University's faculty website provides links to customized career planning presentations; this resource supports faculty efforts to incorporate career topics within the teaching and learning process. Other institutions give career service brochures and announcements to faculty to distribute in classrooms and rely on e-mail, listservs, and career services websites to coordinate delivery of information and reach full-time and part-time faculty. At Ohio's smaller institutions, career services information is presented at general and departmental faculty meetings.

The closest integration for career service goals and methodologies into curriculum delivery appears to be in OTCs. Across the state, these centers purposefully program time for the career service teams and faculty to collaboratively speak with classes. This approach demonstrates to students that careers are available based on their subject matter expertise and technical capabilities. The faculty at Vantage Career Center in Van Wert, Ohio is composed of individuals with extensive work experience that enables them to brief students on professional development and develop curricula aligned to future employment and career success.

OhioMeansJobs -The job search process is a massive undertaking for job seekers and businesses alike. Ohio-specific labor market information and tools provide optimal clarity around Ohio workplace realities.

In 2013, *OhioMeansJobs* (OMJ) hosted more than 40 million job searches by career seekers and employers. There is value in the state's promotion of one job posting site as a means to more rapidly move the labor market to gainful employment and secure talent connections for businesses. OMJ presents the optimal tool to connect Ohio job seekers with Ohio businesses.

While campuses list OMJ among the resources available to students seeking jobs, they report that it is not aggressively utilized, as each campus has its own Customer Relationship Management Systems (CRMS) to track and report student career exploration interactions. Shawnee State University is the sole Ohio institution that requires its students to post resumés on OMJ. Eastern Gateway Community College partners with a local one-stop career center to use OMJ to facilitate connections to jobs in its area.

Developing Industry Models

The Governor’s Office of Workforce Transformation, the Ohio Department of Education, and the Ohio Board of Regents are working with industry sectors to develop career-specific maps. This initiative will enable career counselors across the education continuum to use a shared resource to inform students about the characteristics of Ohio careers. This strategy will broaden the availability of career information for educators and counselors and result in students learning about a wide variety of careers. This approach will lessen the confusion around career discussions and, with the career maps validated by each industry sector, will ensure that career planning is grounded in current, relevant Ohio-specific job realities.

Data Used for Planning and Continuous Improvement

The need to gather and report meaningful data on education to career pathways is clear. Career counselors have identified the need for information on the relationship between academic degrees and credentials and in-demand Ohio careers. Reporting requirements for certificate programs supported through federal financial aid include job placement data. Further requirements are in development that will require institutions to report job placement data for certificate programs to access federal funds. Additional gainful employment data points are under review at the federal level. It is imperative for Ohio to be a leader in developing and implementing robust data-gathering and report systems that inform institutional, business, and individual planning for the future, and to monitor the changing federal requirements.

Recommendations for Improving Career Services Student and Industry Engagement:

1. **Required Career Services Engagement** - It is recommended that the Chancellor engage with campus leaders to institute requirements for every student to have two documented career services interactions, either with career services professionals or faculty career advisors.
2. **Career Services and Performance Funding** - It is recommended that the Chancellor explore inclusion of a performance metric for students' career services engagement into the state's performance-funding formula.
3. **Ohio Career Conversation** - It is recommended that the Chancellor convene business leaders, school counselors, career services professionals, provosts, and faculty for industry-specific educational sessions detailing the skills needed for specific careers, and the type of comprehensive preparation most beneficial to ensuring a candidate's hire. It is further recommended that the Chancellor engage in collaborative research with the State Superintendent and industry leaders to explore career guidance services provided to PreK-16 students in Ohio.
4. **Ohio Career Pathways** - It is recommended that the Chancellor continue to engage with the Governor's Office of Workforce Transformation and the Ohio Department of Education (ODE) to develop career-specific maps.
5. **Broaden Collection and Reporting of Employment Data** - It is recommended that the Chancellor continue to work with the Ohio Department of Jobs and Family Services (ODJFS) to develop and implement seamless procedures and processes to track an individual from student status into the workplace.
6. **OhioMeansJobs (OMJ) Awareness and Utilization** - It is recommended that the Chancellor work with appropriate stakeholders to raise awareness, utilization, and student engagement of OhioMeansJobs on USO campuses. It is further recommended that the Chancellor coordinate with state agency and industry partners for the delivery of OhioMeansJobs workshops on college and university campuses for students and career services personnel.
7. **Model Ohio Career Preparation Curriculum** - It is recommended that the Chancellor collaborate with the Governor's Office of Workforce Transformation and academic leaders in USO institutions to develop and implement Ohio Board of Regents-designed model job preparation curricula.
8. **Career Services Integration with Academic Programs** - It is recommended that the Chancellor convene USO provosts and chief academic officers to design strategies on integrating career service content into academic offerings. This work would build on the Ohio Career Conversation Conference.
9. **Institutional Strategic Prioritization of Career Services** - It is recommended that the Chancellor collaborate with college and university presidents to strategize priority positioning of career services in each institution.





Connecting Knowledge through Application: Co-ops, Internships, and Apprenticeship Programs

Ohio is committed to retaining and attracting talent. A first step toward a talent goal begins with students having quality career and work-based opportunities, both while earning credentials and after.

Businesses are interested in locating and growing where they have access to educated, well-trained, innovative individuals. A highly effective and growing workforce strategy in support of this role includes internships, co-ops, and apprenticeships that enable students to explore and define their career choices with the support of Ohio businesses. Internships and co-ops offer students a preview of real-world work, while businesses get a preview of emerging talent. Internships significantly increase the likelihood students will graduate on time in their field of choice. Internships and co-ops are one factor in developing individuals with the talent to contribute to a changing economy and workplace.³⁶ These workplace experiences also often satisfy experience requirements that businesses list in job postings.

Additionally, businesses become an integral element of education delivery, providing industry experiences that assist students with taking the valuable knowledge gained through education or training and applying that learning in a workplace setting, further honing the skills that employers need. Students gain insights into the realities of their chosen career paths with the hope that those insights cement their desires to engage in those industries or fields of expertise. Having internship and co-op experiences early in the academic process also can inform students when another pathway might be a better fit for their interests and skills.

Through these workplace experiences, students learn to effectively apply their knowledge. Students close the learning-to-practice loop when they take what they have learned in the workplace back to the classroom, sharing the insight gained with peers and faculty.

National Data

Ohio's strategy to embed internships and co-ops within the college and university experience builds on a foundation of national research and practice. The 2013 National Survey of Student Engagement (NSSE) describes internships as one of seven high-impact practices demonstrating "positive effects on student learning and retention."³⁷

Internships and co-ops provide additional direct benefits for students as they transition to employment post-graduation. In 2013, businesses offered a job to more than 56 percent of students

36 Walker, Robert Bruce. (2011). Business internships and their relationship with retention, academic performance, and degree completion. Graduate Theses and Dissertations. Paper 12015. Available from Iowa State University Digital Depository @ Iowa State University. Retrieved from <http://lib.dr.iastate.edu>

37 National Survey of Student Engagement. (2013). A Fresh Look at Student Engagement—Annual Results 2013. Indiana University Center for Postsecondary Research. Retrieved from http://nsse.iub.edu/NSSE_2013_Results/pdf/NSSE_2013_Annual_Results.pdf

participating in an internship; nearly 86 percent of those offers were accepted.³⁸ National Association of Colleges and Employers (NACE) data demonstrate the value and return on investment of internships and co-op programs for students, businesses, and the economy:

- The average hourly wage for interns at the bachelor's degree level is \$16.26.
- The average hourly wage for interns at a master's degree level is \$21.90.
- Responses showed that 80 percent of employers offer some type of benefits to interns; 75 percent offer benefits to co-ops.
- Business respondents who hired interns/co-op students from their own programs retained nearly 89 percent of these individuals after one year, which is nine percent higher than individuals with no internship/co-op experience.³⁹

Students are aware of the tangible rewards of internships and co-ops, and have come to expect work-based learning as part of their college experience. In 2013, more than 63 percent of students accomplished this goal by their senior year through internships or co-ops. This is the highest percentage of students participating in internships and co-ops since NACE began tracking student participation with the class of 2007.⁴⁰ Employers estimate that 38 percent of new college hires in 2013 consist of student interns, according to a NACE study of 306 large companies.⁴¹

Students at community colleges desire internship and co-op placements as well. In 2011 more than 45 percent of community college students reported that they plan to participate in co-ops or internships, yet only 15 percent reported engaging in these settings as part of course requirements.⁴² There is a clear gap between the number of credit-bearing placements available and student interest in hands-on-learning experiences.

Internships and co-ops are affecting hiring practices and expectations for students and businesses. Intel Corporation's experience demonstrates the value of internships. In 2013 Intel hired 1,600 interns. The company's intern hires received higher annual performance review ratings, more promotions, stayed with the company longer, and received more patents than employees who had not interned at Intel.⁴³

The size of a business can affect its internship strategies, according to research by Michigan State University's College Employment Research Institute (CERI). The CERI analysis showed more than 82 percent of large organizations sought interns versus 62 percent of small businesses.⁴⁴ CERI's

38 NACE. (2013). Executive Summary: Internship & Co-op Survey. *National Association of College and Employers*. Retrieved from <http://www.naceweb.org/uploadedFiles/Content/static-assets/downloads/executive-summary/2013-internship-co-op-survey-executive-summary.pdf>

39 *Ibid.*, NACE, p. 4-5.

40 NACE. (2013). Class of 2013: Majority of Seniors Participated in Internships or Co-ops. *National Association of Colleges and Employers*. Retrieved from <http://www.naceweb.org/s06262013/internship-co-op-during-college.aspx?terms=Class%20of%202013%3aMajority%20of%20Seniors>

41 Meinert, Dori. (2013) Fresh Faces: A well-planned internship program can energize your enterprise. *HR Magazine: Society for Human Resource Management*. (58.11) Retrieved from <http://www.shrm.org/publications/hrmagazine/editorialcontent/2013/1113/pages/1113-internships.aspx>

42 Center for Community College Student Engagement. (2012). *A Matter of Degrees: Promising Practices for Community College Student Success (A First Look)*. Austin, TX: The University of Texas at Austin, Community College Leadership Program, p. 22. Retrieved from http://www.ccse.org/docs/Matter_of_Degrees.pdf

43 *Ibid.*, Meinert.

44 College Employment Research Institute. (2012). Internships and Co-ops 2012 Talent Development Outlook: CERI Research Brief 2012.3. Retrieved from <http://www.ceri.msu.edu/wp-content/uploads/2010/01/CERI-Research-Brief-2012-3-Internships-and-Co-ops-2012.pdf>

conclusion was “internships have become an essential talent management strategy regardless of a business’ size.”⁴⁵ Different-sized businesses bring varied expectations to the student experience, requiring higher education institutions to prepare a range of options.

Effective industry engagement to promote internships and co-ops requires educational entities to proactively reach out to businesses. Designing and implementing effective internship experiences that lead to meaningful student learning outcomes and tangible benefits for employers takes time and attention. Businesses may require assistance with developing an overall internship experience, as many businesses, particularly smaller firms, cannot dedicate staff to this work. Educational institutions can strive to eliminate confusion on how best to secure interns and to clarify the expectations of what businesses will commit to a student’s experience. One aspect of the discussion for new businesses may include “return on investment” conversations with educators about why it is important to engage in these relationships and experiences, and how such engagement can enrich the workforce.

Ohio Practices

In the 21st century, students view educational attainment as a means to an end, leading them to a career, financial security, and well-being for themselves and their families. Students realize that to be of value in the marketplace they will need knowledge, meaningful skills, and prior relevant experience. Preparing students for these workplace opportunities requires institutions to increase faculty and staff time focused on advising students. Faculty may be involved in determining what methods work well to get students interested and placed in internships and co-ops. At some institutions, faculty also play a role in facilitating or securing businesses for the internship connection, or arranging for a business to come to the classroom and dialogue with students, making the connection between learning and future earnings.

Typically student internships in Ohio are one-time (or one-term) experiences in the workplace, where students are assigned specific tasks, projects to complete, or problems to solve. They may be paid or unpaid experiences, or offered for college credit. Co-ops, on the other hand, generally are multi-term experiences in the workplace where students are assigned tasks, projects, and problems, and are always for-credit and paid experiences.

Historically, Ohio student participation has been catalogued in three broad categories:

- **For-credit clinical experience**, which applies to health technology programs and Ohio educator preparation programs, includes a laboratory section that meets at a health-related provider, or in a PreK-12 school in lieu of on-campus facilities. These placements provide a realistic environment for student learning, where a regular faculty member directly supervises the class. The instructors assigned to teach clinical laboratory or educator preparation experiences are full-time or part-time faculty members.

45 Gardner, Phil. (2013). Framing Internships from an Employers’ Perspective: Length, Number, and Relevancy. College Employment Research Institute. Retrieved from <http://www.ceri.msu.edu/wp-content/uploads/2010/01/internshipCERI-Research-Brief-XX.pdf>

- **Field experience** is a planned, paid work activity related to an individual student's occupational objectives, and is taken in lieu of elective or required courses in the academic program with the permission of a faculty advisor. The experience is coordinated by a faculty member, who visits the site of the experience for a conference with the student and his or her supervisor at least once during the quarter or semester; and assigns the course grade to the student after the appropriate consultation with the employer or supervisor.
- A **practicum** is an on- or off-campus work experience that is integrated with academic instruction in which the student applies simultaneously learned concepts to practical situations within an occupational field. The practicum is coordinated by a faculty member who visits the students at least once every two weeks, provides the final grade, and teaches at least one course students attend on campus. Student teaching internships are among the practica offered in Ohio.

Of these three categories, the state currently tracks only for-credit experiences or exposures placed on the student's college transcript (Appendix C.2). However, due to the increase of internship and co-op experiences that prepare students with practical skill application opportunities and connect students with careers, the Chancellor has indicated that by 2016 these student experiences will be added to the data gathered and reported through the state's Higher Education Information System (HEI).

State Investments in Statewide Co-op and Internship Strategies

Ohio has invested in the Third Frontier Internship program, a state-level internship and cooperative education program. Established in 2002, the program focuses on advanced energy, advanced manufacturing, bioscience, information technology, instruments, controls and electronics, and power and propulsion. The Third Frontier program reimburses participating employers for up to 50 percent of an intern's wage, or no more than \$3,000 for a 12-month period (*Appendix B*).

In addition to the Third Frontier initiative, the state provided funding for the Ohio Means Internships and Co-ops (OMIC) grants program. This program is designed to refine and develop strategies related to internships and co-ops, take action, and measure the results. The program places a premium on sustainability and relevance in connection with regional economic and workforce needs.

The Chancellor sought advice from business leaders, academic leaders, and members of the General Assembly on the Cooperative Education and Internship Program Advisory Committee prior to establishing the request for proposals (RFP) for the two rounds of funding to date.⁴⁶ The RFP for the initial round of OMIC funds required a focus on engaging more students and businesses in internships and co-ops; providing plans to build, expand, and sustain internship programs at Ohio institutions;⁴⁷ and making the workplace experiences relevant to careers. The funds awarded

46 OhioHigherEd. (2014). 2013-14 Cooperative Education Internship Program Advisory Committee. *Ohio Means Internships & Co-ops*. Retrieved from https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/omi/2013-14_CEIA.pdf

47 Lawriter. (2012). 3333.72 Choose Ohio first co-op/internship program definitions. *Ohio Laws and Rules: Ohio Revised Code*. Retrieved from <http://codes.ohio.gov/orc/3333.72> (Does not include proprietary (for profit) institutions. Public and non-profit private institutions only).

in the initial phase of OMIC enabled students and businesses across the state to be served through a broad array of new and expanding programs (*Appendix C*).

Institutions receiving funding in OMIC's second phase focused on using money to catalyze, bolster, or accelerate efforts to make their internship and co-op programs self-sustaining by the end of the grant period, and more relevant to the workforce needs of Ohio businesses. The campuses leveraged business partners to support the priorities through student placements, and provided small amounts of wage support to participating businesses.

To date, the state has awarded approximately \$22 million to lead OMIC-participating education institutions (*Appendix C.1*). Participating institutions of higher education have engaged hundreds of business partners in key industry sectors throughout the state to place student interns and co-ops in partnership with the OMIC program.⁴⁸ The awards require a privately funded match of at least 100 percent, – usually provided in the form of wages paid to students by businesses or other direct costs the business incurs to provide the workplace experience.

Results: Data and Insights from OMIC

To measure the impact of the program, the Ohio Board of Regents gathered activity and financial measures. The broad categories of data collection and reporting (57 elements) represent four metrics areas: internship and co-op placements, wages and hours, student demographics, and businesses. Within each metric are data elements incorporating the 10 *JobsOhio* key industry sectors for participating businesses;⁴⁹ the 840 Standard Occupational Classification (SOC) system codes⁵⁰ into which student internships occur; and the North American Industry Classification System (NAICS) codes⁵¹ into which businesses are categorized. Additionally, data about local or regional labor market information, student employment and wages, scholarship awards, wage assistance to businesses, and institutional budget and financial information are being collected to assess the environment, incentives, and effects of the program.

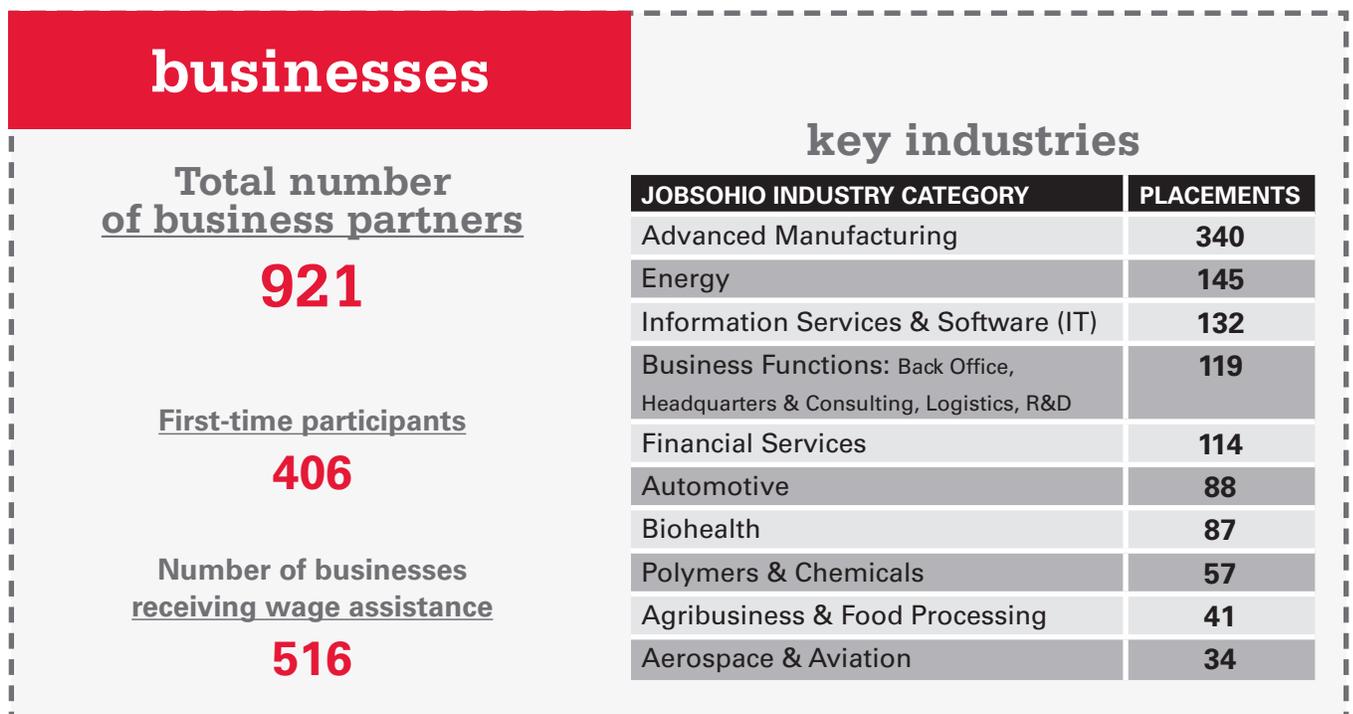
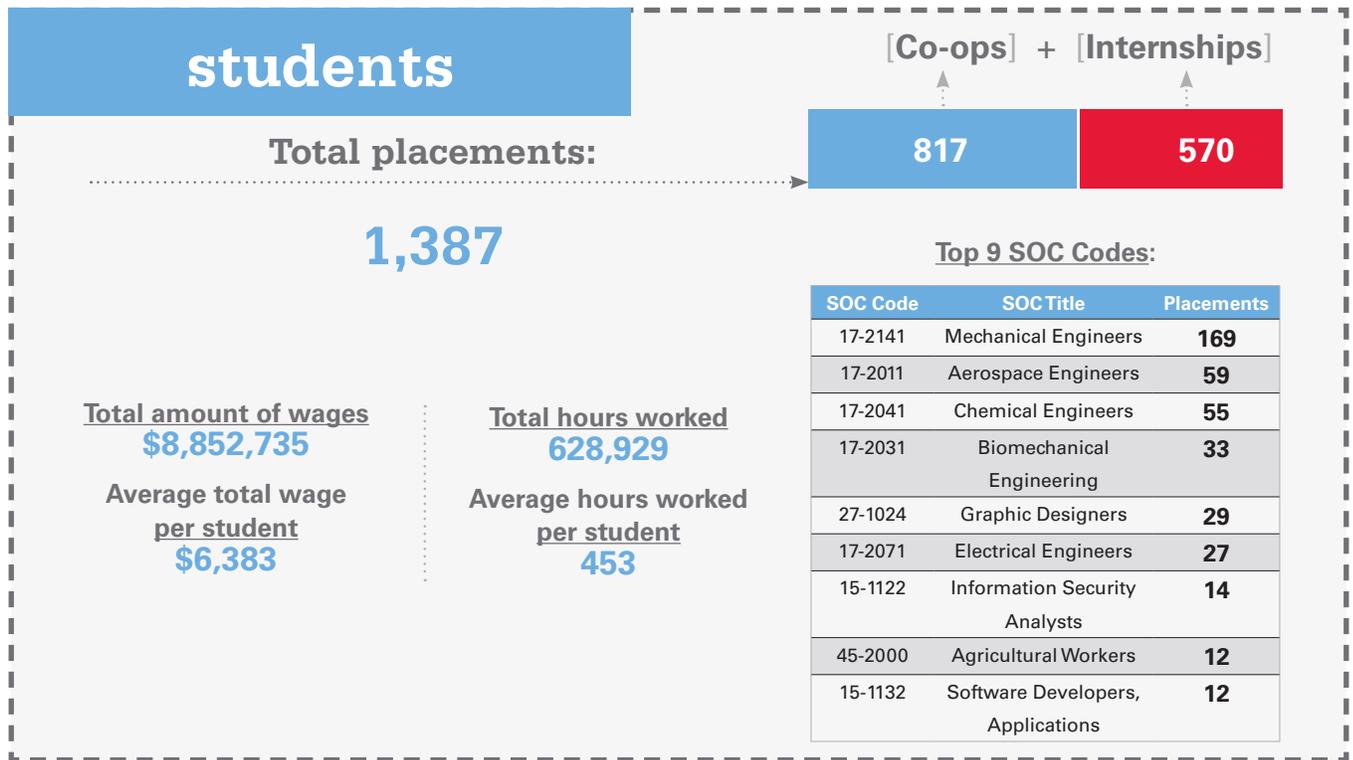
48 OhioHigherEd. (2014). OMIC 2014: Employers And Employer Intermediaries/Consortia. *Ohio Means Internships & Co-ops*. Retrieved from <https://www.ohiohighered.org/omic/2014-employer-partnerships>

49 JobsOhio. (2013). Annual Report/Strategic Plan. *JobsOhio*. Retrieved from http://jobs-ohio.com/images/JO_annual_report_2013_14.pdf

50 United States Department of Labor Bureau of Labor Statistics Standard Occupational Classification. http://www.bls.gov/soc/major_groups.htm

51 United States Census Bureau North American Industry Classification System. <https://www.census.gov/eos/www/naics/>

Figure one illustrates data collected through December 31, 2013:



The program has expanded the range of institutions and partnerships with more private colleges and universities, technical centers, and community colleges in Ohio now offering internship and co-op resources for students.

Early insights from the data indicate students are paid, earning credit, and making progress toward degrees and gaining workplace knowledge. Students are drawn from a variety of majors, but there is a large tilt toward engineering major participants. While STEMM-related majors and careers are in-demand and pay well, the data show an opportunity to diversify participation beyond engineering fields. The early OMIC data point to a gender and minority gap that tracks with STEMM fields nationally; the data indicate a need for directed outreach to women and minorities, those with disabilities, first-generation college students, and students with barriers to education. Outreach to these specific populations is essential to increase awareness of and participation in internships and co-ops. In terms of attracting new students and businesses to participate in internships and co-ops, the program data demonstrate early and positive results with nearly 70 percent of students and 45 percent of businesses engaging in internships or co-ops for the first time.

Active, intentional, and targeted outreach activities are necessary to diversify the types of student participating in internships and co-ops. Outreach goals are to connect students to new layers of experience both in and out of the classroom. Research demonstrates the value of two distinct activities to support minority and women students in work-based learning environments, particularly in the STEMM disciplines – role modeling and intrusive/intentional advising. Complementing these two actions is the importance of developing a community for students to assist them within the institution, including peer support groups, specialized academic organizations, and targeted orientation programs through the use of scholarships.

Ohio's colleges and universities through the OMIC program are beginning to incorporate these types of strategies at the campus level. The University of Cincinnati targets students in its GEN1 program to participate in work-based learning. The GEN1 program supports first-generation students through a community-based model. The University of Akron and Youngstown State University are building connections to the Choose Ohio First program. The Choose Ohio First program is charged with broadening participation from underrepresented backgrounds in high-demand STEMM areas.

OBR has teamed up with OhioMeansJobs to provide a portal to connect students looking for internship and co-op opportunities with businesses looking for interns, by creating www.OhioMeansInternships.com. With the launch of the new site specific to internship searches and a change in reporting tools, the future statistics beginning in 2014 will more clearly show usage of the site to connect students and industry. The statistics shown here give information regarding the utilization of the portal by unique visitors searching the site for new opportunities from May through December, 2012 and the entirety of 2013.

Visitor Summary		2012	2013
Visitors	Visitors	12,022	23,290
	One-time visitors	10,671	20,584
	Multiple-time visitors	1,351	2,706
Visits	Total visits	14,566	28,371
	Average visits per day	52	81
	Average minutes spent on site	2:59	2:56
Page Views	Page views	31,520	60,741
	Average pages viewed per day	114	173
	Average page views per visitor	2.17	2.13

College and University Internship and Co-op Initiatives

One of the goals of OMIC is to provide support for the enhancement or expansion of existing co-op and internship programs at USO institutions that have shown success in providing these opportunities. Below are examples of innovative programs at University System of Ohio institutions:

Bowling Green State University (BGSU)

In northwest Ohio, BGSU is committed to internships and co-ops through the Falcon Internship Guarantee.⁵² BGSU students who complete the internship preparation program and meet identified criteria are given the opportunity to participate in an internship or other experiential learning activity during their undergraduate career. BGSU, located in a rural region of the state, works with businesses in other areas of the state and country to provide internship teams with the opportunity to solve real-world business problems and complete projects through a group internship experience.⁵³ Part of the university's OMIC funding will enable students who may have been limited by geography to still have the opportunity to intern in Ohio, and to help companies solve their problems while gaining valuable experience.

Cleveland State University (CSU)

CSU's Career Service's LINK Program (Linking Minority Students to Careers)⁵⁴ is a nationally recognized program that promotes academic and career success for students of color. Through the components of career preparation, merit scholarships, and mentoring, the LINK Program creates a diverse talent pipeline that is designed to positively impact the economic development of the northeast Ohio region. Students have direct access to a counseling resource to assist with navigating CSU, and are assigned a mentor to help them prepare personally and professionally, and graduate. The program begins freshman year with the requirement to complete a career orientation course that prepares the students for a co-op experience. The goal of the program is to "provide employers with productive, insightful co-op employees."⁵⁵

Northeast Ohio Council on Higher Education (NOCHE)

In northeast Ohio, NOCHE⁵⁶ partners with colleges and universities, including those in the OMIC program and through regional initiatives, to expand internships and co-ops to develop the talent pool necessary to ensure northeast Ohio's economic competitiveness.

52 Bowling Green State University. (2014). Falcon Internship Guarantee. *BGSU: Career Center*. Retrieved from <http://www.bgsu.edu/career-center/falcon-internship-guarantee.html>

53 Bowling Green State University. (2014). Internships and Co-ops Grant Aids Students, Businesses. *BGSU: News*. Retrieved from <http://www.bgsu.edu/news/2014/03/internships-and-co-ops-grant-aids-students-businesses.html>

54 Cleveland State University. (2014). LINK Program: Students. *Cleveland State University*. Retrieved from <http://www.csuohio.edu/offices/career/link/students.html>

55 Cleveland State University (2014). LINK Program: LINK Program for Employers. *Cleveland State University*. Retrieved from <https://www.csuohio.edu/offices/career/link/employers.html>

56 Northeast Ohio Council on Higher Education. (2012-2014). Home Page. *Northeast Ohio Council on Higher Education*. Retrieved from <https://www.noche.org>

For example, through relationships with colleges and universities and consultations with businesses, NOCHE placed 49 new interns at 27 entrepreneurial companies in 2012,⁵⁷ helping to connect talent to the innovation economy. The benefits of internships and co-ops in northeast Ohio reach both businesses and students; in 2012, businesses saved an average of \$2,411 in recruitment and hiring costs, plus \$1,659 in new-hire training and onboarding costs when converting an intern to a full-time employee rather than hiring a new individual.⁵⁸

The Southwestern Ohio Council for Higher Education (SOCHE)

SOCHE⁵⁹ is the collaborative infrastructure for 21 colleges and universities with a vision of educated, employed and engaged citizens.⁶⁰ To further its goals in cooperation with its members, SOCHE has long operated a turnkey internship service to make it easier for companies to employ interns. Additionally, SOCHE facilitates the alignment of the internship and co-op functions of its member institutions with the needs of the regional economic development community. In 2012, SOCHE established an umbrella effort, the 20 by 20 Challenge, to offer overall coordination of the portfolio of services targeting 20,000 internships and co-ops per year in southwestern Ohio by the year 2020.⁶¹

“One of the issues businesses constantly think about is the need to grow and retain a talented and motivated workforce. We are blessed to have needs. We know that one of the best ways to recruit and retain new talent is by providing internship and co-op work opportunities.”

—Phil Parker, President and CEO,
Dayton Area Chamber of Commerce

The University of Cincinnati (UC)

UC established the nation’s inaugural model of cooperative education more than 100 years ago. Cooperative education was pioneered by Dean Herman Schneider at UC in 1906. This past year, UC facilitated in excess of 5,000 full-time, major-specific co-op opportunities, resulting in \$48 million in combined student earnings over the past year.⁶² The 2012 general education requirements at UC have fueled the growth of internships targeting students enrolled in all major programs campus wide.

57 Northeast Ohio Council on Higher Education. (2012). Small Companies Benefit from Big Talent-Entrepreneurial Interns. *NOCHE: Blog*. Retrieved from <http://www.noche.org/blog/NOCHE/Small-Companies-Benefit-from-Big-Talent--Entrepreneurial-Interns-2>

58 Northeast Ohio Council on Higher Education (2012). 2012 Regional Internship & Co-op Pay Rates, Practices and Economic Impact. *NOCHE*. Retrieved from [http://www.noche.org/media/1/NOCHE2012InternshipStudyFindings\(1\).pdf](http://www.noche.org/media/1/NOCHE2012InternshipStudyFindings(1).pdf).

59 Southwestern Ohio Council for Higher Education. (2014). Homepage. *SOCHE*. Retrieved from <https://www.soche.org/>

60 Southwestern Ohio Council for Higher Education. (2014). Strategic Plan. *SOCHE*. Retrieved from <https://www.soche.org/about/strategic-plan>

61 Southwestern Ohio Council for Higher Education. (2014). 20 by 20 Challenge. *SOCHE*. Retrieved from <http://www.20by20challenge.com/index.html>

62 Cohen, Erin. (2014). Prestigious State Grant Will Expand Co-op and Internship Opportunities for Students. *University of Cincinnati News*. Retrieved from <http://www.uc.edu/news/NR.aspx?id=19434>

Miami University (MU)

In 2013, more than 1,400 businesses recruited MU students as interns or employees. This included over 475 employers that attended career fairs, 210 of which conducted on-campus interviews involving more than 5,000 Miami students. Together these employers posted over 4,000 internships and jobs with MU. Many of these employers are headquartered in Ohio or have significant operations in Ohio. A recent study conducted by MU's Office of Career Services and the Institutional Research Office revealed that its unique undergraduate experience and strong partnerships with employers are yielding extremely positive outcomes for Miami students. A survey of MU's 2012-2013 graduates showed that 91 percent of respondents were either gainfully employed or admitted into post-graduate or professional degree programs. A vast majority of these students were employed in their major, and three percent of the respondents reported being unemployed. Average salaries reported were between \$30,000 and \$60,000.⁶³

Additional Strategies for Advancing Co-op and Internship Opportunities

OMIC's strategy includes a partnership with OhioMeansJobs (OMJ), which is designed and facilitated by the Ohio Department of Jobs and Family Services (ODJFS). OMJ is the state's web-based labor exchange, matching job seeker resumé's with job vacancies. To broaden Ohioans' access to internship opportunities, an objective for OMIC led to a partnership with OMJ to develop an internship-specific section of the state's job posting system. An internship portal allows for students and businesses to use technology to match skills and interests. Activity data on this effort currently shows large numbers of career seekers using the OMJ site, but low usage of the site for the purposes of finding internship opportunities.

Because each region of Ohio is unique, the OMIC Advisory Committee and various regional economic development partners will provide guidance regarding which industries in each region of the state should be included in outreach and growth initiatives. In addition, a portion of future funding to campuses may explore supporting the development of career pathways beyond the state's targeted industries.

Awarding of Credit for Internships and Co-ops

Institutional flexibility in awarding credit for internships and co-ops can help control student costs and credit hours accrued toward degree completion. Flexibly awarding credit can help maximize participation by ensuring that internships and co-ops are not dropped in an effort to restrain student debt or reduce credit hours required for a degree. Employing flexibility in awarding academic credit for internships and co-ops will also allow more businesses with problem- or project-specific work to host more students because the nature of the work is not based on hours clocked but value added.

63 Board of Regents. (2014). *Board of Regents Special Meeting Minutes Condition Report Subcommittee*, Retrieved from <https://ohiohighered.org/sites/ohiohighered.org/files/uploads/board/meetings/2014/Condition%20Report%20Minutes%20-%20signed%203.12.14.pdf>

Incorporating Apprenticeships in Ohio's Experiential Learning Strategies

Ohio's experiential learning strategies expand beyond traditional for-credit opportunities offered to students. Through apprenticeships, students gain workforce connections and enhance learning. Career technical centers offer a strong pipeline for apprenticeship students and help businesses find the workers they need.

Alignment between Ohio's public institutions of higher education and registered apprenticeship programs has been occurring since the 1990s as a result of the state's articulation and transfer policy. By 2008, more focused alignment with statewide support through the Ohio Board of Regents (OBR) began and has continued to gain momentum.

As a result of a pilot program developed in 2012, OBR, the Ohio Association of Community Colleges (OACC), and the Ohio State Apprenticeship Council completed the first in a series of statewide articulation agreements approved by the North Central Association/Higher Learning Commission (HLC). These statewide agreements provide apprentices with college credit for technical and general education courses, allowing them to accelerate completion of a technical associate degree.

In March 2013, the Apprenticeship Statewide Partnership Panel (ASPP) was chartered and charged with:

- Overseeing implementation processes for new apprenticeship programs approved by OBR
- Identifying apprenticeship programs for statewide articulation agreements
- Maintaining HLC standards for apprenticeship pathways
- Monitoring the work of each occupation-specific apprenticeship panel working on statewide articulation agreements
- Educating internal and external stakeholders on the relevance of the committee's work and how it impacts Ohio's workforce development vision
- Providing oversight for credit awarded and academic alignment for each apprenticeship program
- Working to obtain statewide endorsement of each approved apprenticeship program

Typically, high-demand industry training programs are found in the trades, such as carpentry, masonry, and plumbing. OBR efforts to support the trades are best exemplified by the electrical apprenticeship pathway program. The program was the first to be approved in December 2012 and has laid the groundwork for additional pathways to move through the HLC process. Eleven of the state's 23 community colleges maintain programs that have been approved as part of the statewide articulation and transfer agreement. Ohio's IBEW-NECA Electrical Apprenticeship pathway program was recognized as a 21st Century Registered Apprenticeship Trailblazer and Innovator in Washington D.C. in August 2012 during a National Education and Action Summit, which took place on the 75th anniversary of the signing of the National Apprenticeship Act.

Discussions are under way to expand and include apprenticeships as a component of industry-specific programs. Discussion participants include the Governor's Office of Workforce Transformation, the ODJFS Apprenticeship Council, ODE's Career Technical Education Division, Ohio Technical Centers, and industry apprenticeship representatives, including sheet metal, Ohio carpenters, electrical trade, plumbers and pipefitters, and operating engineers. Apprenticeship representatives report satisfaction with the content expertise of graduates and have made a commitment to provide externship opportunities for career-technical teachers. Future areas for curriculum improvement include basic mathematic skills, communication skills, and English skills of graduates.

Recommendations for Furthering Internships and Co-ops as a Workforce Strategic Advantage:

State leaders are uniquely positioned to connect knowledge from education and industry experts across a large and diverse state and to connect local-level practices with centralized support as Ohio explores expanding internships and co-ops as a workforce strategy.

1. **Diversify Student Populations** – It is recommended that the Chancellor’s Choose Ohio First Scholarship program staff work with Third Frontier program staff and OMIC participants to benchmark highly effective practices and develop a set of outreach strategies for campuses to grow their diversity efforts in internship and co-op programming.
2. **Expand Internship Strategies Across Programs** - It is recommended that the Chancellor seek input from the OMIC Advisory Committee and regional economic development partners to identify industries for outreach and growth. This effort should identify additional major/degree programs or certificate areas on Ohio campuses with the potential to offer internship or co-op programming.
3. **Expand Partnerships with Career Centers** - It is recommended that the Chancellor research and implement expansion of the state internship strategy through focused approaches with Ohio Technical Centers.
4. **Expand Shared “Straight A” Fund and College Credit Plus Strategies** - It is recommended that the Chancellor investigate partnerships for adding internship opportunities for high school students enrolled in College Credit Plus courses within career and technical pathways, by leveraging Ohio Straight A grant investments.
5. **Utilization of *OhioMeansJobs*** - It is recommended that the Chancellor cultivate an awareness to increase the utilization of the *OhioMeansJobs* web portal on college and university campuses. This would provide one centralized resource as the internship brokerage point across the state.
6. **Regional Strategy and Best Practice Development** - It is recommended that the Chancellor conduct regional planning sessions with OMIC grantees and other stakeholders to explore lessons learned, best practices, local and state challenges, opportunities for growth, and short- and long-term resource needs.
7. **Sustain Internship Programs** - It is recommended that the Chancellor’s final report on the OMIC program analyze campus strategies and the current infrastructure in place to sustain programming and potential resource needs to cement internships and co-ops as an operational practice across all educational areas.
8. **Academic Credit** - It is recommended that the Chancellor convene a working group to examine current practices related to awarding credit for internships and co-ops, and to recommend policies that will give institutions the flexibility needed to accommodate student and program needs.



Collaborations: Designing New Tools for Education and Industry

Education and Training Program Inventory

Currently, individuals and businesses are forced to search various, uncoordinated websites and reference points to locate programming necessary for skill advancement. Finding these programs can be challenging, as the naming of an education program may not correlate well to the perception of what a program should be labeled. There is also the possibility one program may prepare individuals for several career paths or skill set categories.

To address this issue, the Ohio Board of Regents (OBR), working in conjunction with the Governor's Office of Workforce Transformation (OWT), is building a comprehensive inventory of education and training programs offered in Ohio. The inventory will be mapped against employment opportunities available in Ohio and be made available to the public through the Ohio Department of Jobs and Family Services' *OhioMeansJobs* (OMJ) website, Ohio's labor, career, and employment marketplace.

The Ohio inventory will house information, which will be placed online and embedded within the Ohio Department of Jobs and Family Services' *OhioMeansJobs.com* web portal. OMJ displays a wealth of labor market, career, and job information, and is frequently visited for job matching and career information purposes. OMJ provides the optimal place to house detail for access to education and required skill information for Ohio careers.

The education information in the inventory will be displayed against job classifications in our state. This will make education and training program data more rapidly accessible using common job classification searches. The methodology OBR will utilize for this education/skill match will be a crosswalk tool from the National Center for Education Statistics. This crosswalk assists in the translation of course content within education and training programs across various occupations, enabling classification of instructional program (CIP code) searches using commonly known standard occupation classification titles (SOC code). The education community can use the inventory to explore what education opportunities to expand, and to help students connect with successful career pathways.

ACTUARY

Potential Education Programs

- ◆ Applied Mathematics, General
- ◆ Computational and Applied Mathematics
- ◆ Statistics, General
- ◆ Mathematical Statistics and Probability
- ◆ Mathematics and Statistics
- ◆ Statistics, Other
- ◆ Actuarial Science

The inventory will provide both institutions and businesses the ability to better match a career with educational programs.

The first stage of the inventory development will be the data collection effort securing content relating to University System of Ohio institutions: universities, community colleges, and Ohio Tech-

nical Center programs. Stage two will secure data on apprenticeship programming. Stage three will collect detail on programs in private and proprietary higher education institutions in our state. Once the data are combined and displayed, the inventory will be updated annually to include new programs and education offerings that meet critical labor market demands. There will also be a focus on displaying information on the entities providing educational opportunities, within the parameters of consent utilized to release institutional data.

The last phase of the inventory's development will be a broadening of the data elements collected and displayed beyond program name and contact information. The intent is to add other data elements that can help Ohioans pursue educational goals. Some of those data elements could include: duration of program, course cost, accreditation (as applicable), program capacity, number of students enrolled, number of graduates, and the types of certificate, degree, or licensure programs provided.

With the inventory serving both education consumers and businesses, Ohio employers will have the added benefit of searching for connections with education programs and potential future talent. Businesses will also be able to collaborate with institutions to develop incumbent workforce training programs.

In-Demand Jobs

Ohio's education and training programs will also have new resources available to align with jobs and skills classified identified as "in-demand." *OhioMeansJobs* and the Ohio Department of Job and Family Services (ODJFS) data indicate there are more than 100,000 job openings requiring skilled workers, in several critical Ohio industries.

The initial list of in-demand jobs was identified through OWT, using criteria focusing on annual openings, annual growth, and median wage expectations. The current report includes 98 baseline occupations. An additional 50 top occupations were based on Ohio Labor Market Information (OH-LMI) in combination with the 10 *JobsOhio* industry clusters.⁶⁴ Another 42 occupations were added based upon regional criteria and median wage requirements. The development of the list will continue to be an ongoing effort based upon forecast submissions by Ohio employers.⁶⁵

Having educational program inventories and data linked to in-demand occupations provides a valuable resource for Ohioans seeking to enhance their skills through education and training, as

JobsOhio's Industry Clusters

1. Advanced Manufacturing
2. Information Services & Software
3. Financial Services
4. Food Processing & Agribusiness
5. Automotive
6. Energy
7. Biohealth
8. Aerospace & Aviation
9. Polymers & Chemicals
10. Business Services

⁶⁴ *Ibid.*, JobsOhio.

⁶⁵ OhioMeansJobs. (2014). In-Demand Occupations Report. *Workforce Professionals*. Retrieved from http://jfs.ohio.gov/owd/OMJResources/MasterList_WorkforceProfessionals.stm. For a condensed, more user-friendly version click on the In-Demand Careers icon on OhioMeansJobs.com: <http://jfs.ohio.gov/owd/OMJResources/In-DemandOccupations.stm>.

well as businesses that need a highly skilled workforce to continue to grow as economic engines for our state.

Through a partnership with OhioMeansJobs, OBR data will be integrated into the career tools portion of OMJ. The OBR supply of education and training programs data along with the in-demand jobs data could be shared in the future with industries facing workforce challenges in order to assist them in addressing any workforce or skill gaps identified.

Implications for Students

Traditional and non-traditional students can utilize the in-demand jobs list and the OBR education inventory to determine the best career pathways for success. Through the inventory, students will see what Ohio paths lead to which careers and determine if their chosen career requires a certificate, an associate degree, a baccalaureate degree, or a graduate degree. As students go through the education pipeline, they must be provided the opportunity to explore potential careers and paths to obtain their ideal job placement. OBR data will be a resource to provide guidance and information throughout their journey. Due to the multiple pathways available to students, knowing what skills can lead to specific careers can be a tool to motivate them to reach the finish line and earn their degree or certificate.

Benefits of Business and Industry Data for Higher Education Institutions

While students can utilize these tools to assist them in determining their career pathways, institutions will be able to use OBR education data and the in-demand jobs information in several ways.

First, the information can be used as a resource for campus career services functions to utilize in discussions around jobs and labor markets as students make career selections. Secondly, these data can give institutions valuable insights about labor markets to inform their decisions about which programs to offer or expand. Institutions can work with the in-demand jobs list to determine what career pathways are most beneficial for students in their particular regions, or work with industry to assist in the training and education of the current workforce. The connection between pathways and education can help institutions enhance alignment to careers while building a better and brighter future for Ohioans.

Industry Benefits

The collaboration between industry and institutions is one of great benefit to business growth. As companies seek to grow their workforce or grow the knowledge and skills of their current employees, they can reach out to their local institutions to develop programs, or recruit graduates into their workforce. As industry evaluates current and future needs for success, the In-Demand Jobs list will continue to evolve through statewide input regarding career opportunities. Industry can, in turn, utilize the education inventory to determine what degrees and certificates match the skill sets they need. These partnerships will create a more streamlined education-to-career path for Ohio students.



PreK-12 Educators and Student Success in the Economy

From an early age, students are eager to learn. But as lessons, concepts, and tasks become more challenging, struggling learners can become frustrated, disinterested, and disengaged. For a third-grade student grappling with the concept of fractions, “learning for the sake of learning” is simply not enough motivation. But, when a masterful teacher helps him or her see the importance of mathematical skills in the work of a fire fighter, an architect, a journalist, or a video game designer, the passion for learning can be re-ignited. Student commitment to and joy in learning grows when teachers provide context and relevance through real-life examples of ways that a particular skill or piece of knowledge can be used.

Our best teachers, counselors, and school leaders connect the dots for students, tying learning to meaningful skill sets that support long-term goals and dreams. Providing this rich learning environment takes intentional effort, time, and attention. For an educator, this aspect of the professional portfolio requires robust preparation and ongoing professional development. To prepare Ohio’s new teachers and sustain the ongoing growth and development of our experienced educators, the art of contextualized learning and knowledge of current career pathways must be embedded in their professional skill sets.

“What applies to a kindergarten student is far different than what would apply to a senior. All of our teacher candidates design curriculum that is relevant to the present lives of their students, and that contextualizes that learning in real world applications.”

—Ohio educator preparation program leader

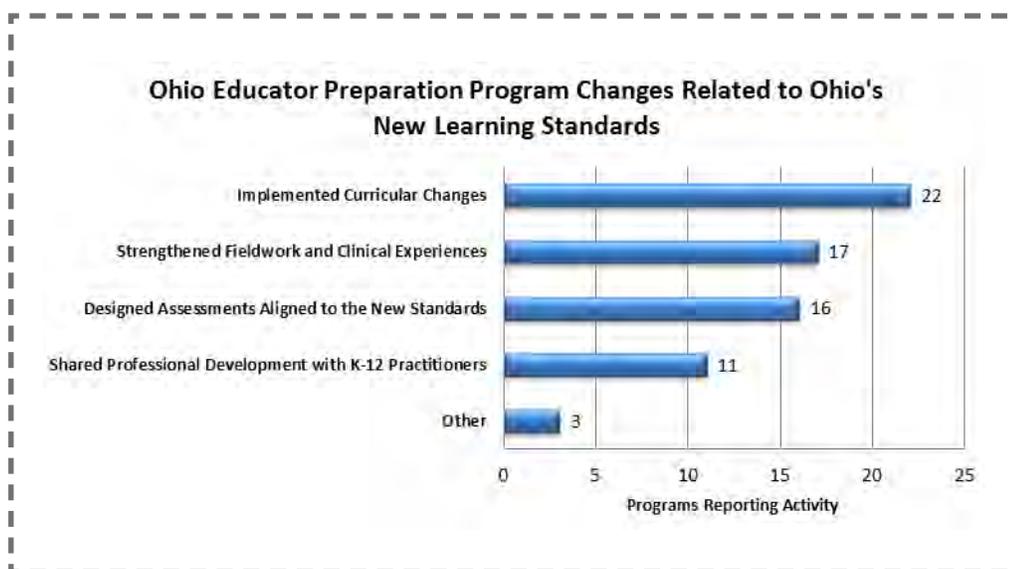
Programs preparing the next generation of Ohio pre-kindergarten through high school (PreK-12) educators must, therefore, be in a state of continual transformation to assure that their graduates enter the classroom with current, relevant skills and knowledge. This intensive, extensive transformative work must be embedded in the ongoing work of program leaders and faculty. It requires intentional focus, collaboration, and constant research. Each program’s curriculum, faculty expertise, and program design must reflect the current needs of Ohio classrooms in preparing PreK-12 students for success through and beyond high school.

This time of historic education reform requires that educator preparation programs constantly connect with elementary and secondary schools to assure that program graduates are prepared with current, relevant knowledge and skills that meet the requirements of Ohio schools. In this period of dramatic change, it is essential to examine the systems in place in Ohio’s educator preparations to determine the changes in the skills and knowledge teachers need to facilitate student learning at high levels.

One of the most significant education reform initiatives under way is the adoption of Ohio’s New Learning Standards for PreK-12 students. Educator preparation programs are preparing their candidates to support student learning aligned with these robust new standards.

Preparing Educators for Ohio's New Learning Standards

Since 2009, educator preparation programs in Ohio have implemented program shifts to prepare their graduates to teach Ohio's New Learning Standards⁶⁶ for PreK-12 students. Curricular changes, new assessments, strengthened fieldwork, enhanced clinical experiences, and professional development for program faculty and PreK-12 practitioners have resulted in fundamental shifts. A 2014 Program Transformation Initiatives survey showed that a number of programs across the state have engaged in significant efforts in response to Ohio's New Learning Standards (*Appendix D*). The changes under way include curricular and coursework changes focused on assuring that candidates are prepared to teach to Ohio's New Learning Standards.



The Chancellor's program review and approval process⁶⁷ has been enhanced to reflect the urgency of educator preparation program transformation. As new programs are proposed and continuing programs seek approval on a seven-year cycle, agency staff and consultants focus on assuring program currency and relevance to the demands of the new Ohio classroom. Programs must provide evidence that their curricula, faculty expertise, candidate fieldwork, clinical experiences in PreK-12 classrooms, and candidate assessments are aligned to the New Learning Standards and additional new state requirements. Alignment to the New Learning Standards requires the strong collaboration of education faculty and content area faculty in the arts and sciences as well as fine arts. Preparing educators that can lead deep student learning requires the integration of pedagogy and content preparation, harnessing the expertise of the faculty across university divisions who share the responsibility of preparing Ohio's next generation of educators. Programs failing to provide sufficient evidence of effective candidate preparation are given a short-term opportunity to address program weaknesses and subsequently seek Chancellor approval. Programs failing to make the necessary improvements are denied approval and may no longer admit candidates for educator licensure.

⁶⁶ The standards revision process in Ohio began with an international benchmarking research study focused on the content standards of top-performing nations and included expert reviews of the previous state standards, college- and career-readiness standards, and local stakeholder input.

⁶⁷ The Chancellor holds the authority and responsibility for reviewing all public and private college and university programs leading to candidate recommendation for Ohio educator licensure.

The History of Career Development in Ohio Schools

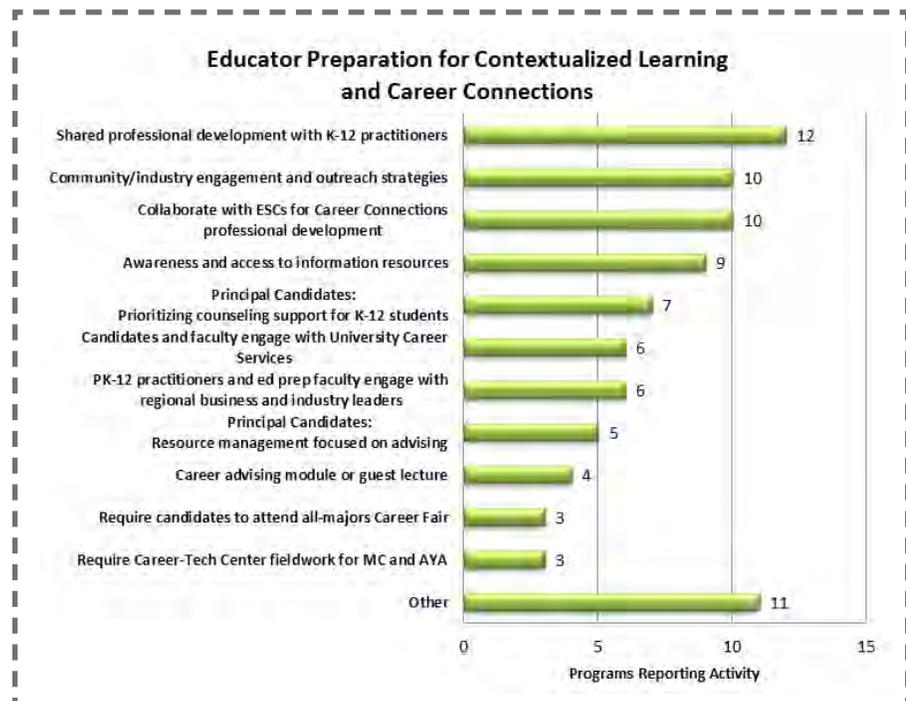
From 1969 to 2003, Ohio's Career Development Program in the Ohio public school system focused on helping all PreK-12 learners understand the skills and information they would need to make career choices throughout life. The program provided career coordinators in school districts, along with resources and services to help all Ohio educators integrate career activities into their academic curricula. Two byproducts of this program were the Individual Career Plan (ICP), a personal career planner for each student, and the Career Passport, an individual exit credential containing formal documents that students use in the next step after high school. The Career Development Program was funded through a designated state appropriation.

Since 2004, funding for career development services and coordination has been at the discretion of local school districts within the parameters of their state funding support. Some districts have maintained the position and responsibilities of the career coordinator, some have expanded the responsibilities of that position to encompass other duties, and other districts have eliminated the role of the career coordinator. Beginning in the 2015-2016 school year, all school districts will be required to adopt and make publicly available a policy on career advising for students in grades six through 12.

In the new model for career development in Ohio, the career connection skills, knowledge, and expertise of each educator are critical to the long-term success of students.

Strengthening the Career Connections and Advising Skills of Ohio Educators

A teacher's ability to engage students through contextualized learning and career connections relies on that educator's preparation and ongoing professional development. For new educators, preparation programs must assure that their programs provide candidates with information and access to resources related to careers, business and industry, and Ohio's future employment needs. For professional educators already working in Ohio's elementary and secondary schools, preparation programs can serve as a meaningful partner in the ongoing professional development needed.



Ohio's educator preparation programs have engaged in work to prepare guidance counselors, educators, and school and district leaders to contextualize knowledge and skills for elementary students and emphasize the specific career relevance of knowledge and skill sets for middle and high school students.

In a 2014 survey, educator preparation program leaders reported an increased emphasis on preparing teacher candidates to contextualize learning for all students and to advise middle school and high school learners on the relevance of course content to in-demand careers in Ohio. To a lesser degree, program leaders report that they have integrated career advising into the course of study for all future educators, and emphasized resource management in principal preparation programs to assure that guidance counselors are utilized to optimize their expertise and focus on student advisement.

The survey results reveal some effort throughout the state to strengthen educator expertise in contextualized learning and career connections, but an increased effort is essential. The extent and the depth of this work has been limited to date, with reported efforts from a small percentage of the state's educator preparation programs.

Scaling Up Effective Practices

Some Ohio educator preparation programs report implementation of changes reflecting the PreK-12 shift to Ohio's New Learning Standards. However, the number of programs reporting these changes represents fewer than half of the Chancellor-approved programs in the state. While the programs that have implemented program modifications are seeing good results in the effectiveness of their graduates, the statewide response is insufficient. It is essential that all programs in Ohio implement the needed changes and commit to continuous improvement to assure that Ohio's newly licensed educators are prepared to lead PreK-12 learners to success. Among the changes required is the development and implementation of systemic collaboration between each educator preparation program and its PreK-12 partners. One example of a systematic collaboration is the formation of an Educator Preparation Advisory Council, composed of K-12 teachers and leaders. Councils should be charged with ongoing program assessment leading to recommendations for curricular and program changes to assure that program graduates are prepared to meet the current needs of Ohio learners and requirements of Ohio schools.

As the state agency responsible for quality assurance and approval of educator programs, the Ohio Board of Regents has implemented procedural changes to strengthen quality assurance of all educator preparation programs in the state.

While the uniqueness of programs across the state provides a rich landscape of opportunity for future educators, the agency's strengthened program review process will provide assurance that all programs remain relevant in preparing educators for a PreK-12 educational landscape undergoing significant reforms and fundamental change.

A 2014 survey of educator preparation programs, conducted for purposes of performance funding grants through Ohio's Race to the Top federal grant, revealed a wide degree of variability of quality

in programs across the state. While the uniqueness of programs across the state provides a rich landscape of opportunity for future educators, the agency's strengthened program review process will provide assurance that all programs remain relevant in preparing educators for a PreK-12 educational landscape undergoing significant reforms and fundamental change.

With only 23 of the state's 51 educator preparation providers reporting program transformation initiatives to strengthen educator preparation in contextualization of learning, there is much work to do. Embedding career connections into curricula is not included in the state's preparation program standards. While the particular model of integrating advising expertise into educator preparation should be left to program faculty and leaders, it is recommended that the Chancellor's requirements for educator preparation programs be amended. Specifically, it is recommended that program standards for all Middle Childhood, Adolescence to Young Adult, and Multi-Age licensure preparation programs include the delivery of content, access to information resources, and instruction in strategies to provide candidates knowledge and skills in:

- Accessing information resources on current careers in Ohio and regions of the state
- Community engagement and outreach strategies to connect with local and regional business and industry leaders to access mentors, guest speakers, and information resources
- Knowledge of education to career pathways

In far too many instances throughout the state, guidance counselors are unable to utilize their expertise in career advising for students because they are deployed on other tasks, including assessment coordination, scheduling, discipline management, and clerical tasks. By preparing building and district leaders to focus on leveraging the unique expertise of guidance counselors, access to advising services for PreK-12 learners will be enhanced. When principals and superintendents assure that guidance counselors are deployed for their highest, best use, students benefit.

Ongoing Professional Development for Ohio PreK-12 Educators

To assure that all Ohio educators remain current in their abilities to contextualize learning for PreK-12 learners, each school district has a Local Professional Development Council (LPDC) that approves the specific learning and professional growth activities that its teachers can count toward the professional development requirements for licensure renewal. Some districts have included professional development in career advising skills as approved activities for their educators. While each LPDC in the state holds the authority to establish its own criteria for professional development of educators in the district, official guidance from the state's PreK-12 education agency would send a strong signal that content contextualization and career awareness for learners are top priorities for the state.

Multiple Ohio educator preparation programs have partnered with the state's educational service centers (ESCs) to provide ongoing professional development opportunities related to career advising for PreK-12 learners. The collaboration of universities and ESCs creates a synergy that optimizes expertise and resources in support of the ongoing professional development of PreK-12 educators and preparation program faculty. The professional education community can be strengthened through partnerships that have historically been hampered by institutional barriers and divisions between sectors.

Collaboration Across the PreK-Postsecondary Continuum

Providing a robust, meaningful educational experience for all learners requires the purposeful, intentional collaboration of PreK-16 educators. The shared responsibility for creating and sustaining this type of learning requires the full involvement, energy, expertise, and creativity of the entire education community.

The need for collaboration across PreK-12 and postsecondary education must begin with collaboration between the state's education agencies. The relocation of the Ohio Board of Regents (OBR) into the same building as the Ohio Department of Education (ODE) in 2013 positioned the leaders and staff members of both agencies for increased communication and collaboration. The gains that the now co-located agencies have achieved in working together provide a strong foundation for much greater collective efforts in the future.

OBR and ODE are well-positioned to convene an advising and counseling discussion among school counselors, principals, superintendents, educational service center staff, college placement and admissions experts, student affairs and career services professionals, college and university faculty, and coordinators of first-year experience courses and programs. In addition, as the agencies responsible for educator standards, school operating standards, educator preparation program standards, accountability reporting, and support and guidance for the professional community, OBR and ODE's shared efforts to assure rigorous standards and compliance are essential. Modeling a highly effective partnership at the state level will foster and encourage collaboration among school districts, colleges, and universities throughout the state. The focus for each of these partnerships must be a shared commitment to educational excellence for all Ohio learners in pursuit of lifelong success, happiness, and fulfillment.

Scaling Up Effective Practices Across the State

Program and curricular changes are well under way in some Ohio educator preparation programs designed to assure that graduates are prepared to teach Ohio's New Learning Standards. However, more attention is required for this aspect of educator preparation in many programs throughout the state.

Fewer than half of the state's educator preparation providers report program transformation initiatives to strengthen educator preparation in contextualization of learning and advising for career pathways.

Preparation program leaders report an increased emphasis on preparing educators to contextualize learning to career demands. Some further report the integration of career advising into the course of study for all future educators.

Recommendations to Strengthen PreK-12 Educators and Student Success in the Economy:

1. **P-16 Collaboration** - It is recommended that Ohio educator preparation providers engage in systematic collaboration with PreK-12 partners to assure alignment with the current needs of Ohio learners and requirements of Ohio schools.
2. **Enhanced Licensure Program Standards** - It is recommended that the Chancellor enhance program standards for all Middle Childhood, Adolescence to Young Adult, and Multi-Age licensure preparation programs to include the delivery of content, access to information resources, and instruction in careers, education to career pathways and business and industry engagement strategies. In addition, it is recommended that the Chancellor's requirements for principal and superintendent preparation programs be amended to include a requisite focus on resource allocation that places a priority on the advising role of the school guidance counselor.
3. **Career Counselor Conference** - It is recommended that the Chancellor and the State Superintendent of Instruction collaborate to hold a career counselor conference for teachers, faculty, staff, and leaders across the PreK-16 continuum. This conference should especially seek to engage counseling and advising staff.
4. **Alignment of Ohio Standards** - It is recommended that the Chancellor and the State Superintendent of Instruction enhance educator quality through continuous review of educator standards, school operating standards, educator preparation program standards, accountability reporting, and support and guidance for the professional community.



A State Focus on Student Outcomes

Models of state financial support for postsecondary institutions vary across the country and ideally align with each state's strategic priorities. Each state's model influences its public college and university strategies, practices, and priorities. Historically states have funded public colleges and universities based on the number of students enrolled. This historical model focuses on student entry, not student outcomes, and fails to provide institutional incentives to assist students with successfully completing education offerings.⁶⁸ Investing exclusively in inputs to the system has failed to result in optimal outcomes for students and their long-term success.

Nationally, only 56 percent of those who start at four-year institutions earn a bachelor's degree within six years. Only 28 percent of associate degree-seeking students graduate within three years. Every additional year that students take to complete a degree diminishes the chance they will graduate.⁶⁹

Ohio as a Leader in Performance Funding

Ohio has been a national leader in the movement to fund public colleges and universities based on student success outcomes, including degree completion. Beginning in 2009, the initial focus of Ohio's performance funding was on course completions with a large majority of state subsidy still based on enrollments. The long-term plan for performance funding was to introduce additional performance metrics into the formula over a period of years.

In 2011, the focus of the state's higher education agenda intensified on student completion and success. The Chancellor convened a task force to examine policies and best practices and develop recommendations to increase student completion and advance student success. The task force made recommendations for institutional strategies to increase student completion rates, many of which are in various stages of implementation by University System of Ohio (USO) institutions.⁷⁰

The 2011 task force did not make recommendations to modify the 2009 state funding-formula.

In September 2012, Governor Kasich convened leaders of Ohio's public colleges and universities, asking them to work together to develop a more rigorous funding formula for USO institutions that rewards institutions for student success and completion. The Governor's call to action was for higher education leaders to view the student success and completion agenda from a statewide systemic perspective as opposed to an individual institution perspective. This approach required

68 National Conference of State Legislatures. (2010). Improving College Completion: Action Steps for Legislators. *Research: Education*. Retrieved from <http://www.ncsl.org/research/education/improving-college-completion-action-steps-for-le.aspx>

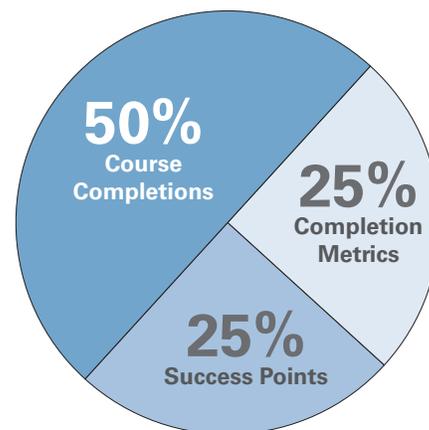
69 *Ibid.*

70 Ohio Higher Education Funding Commission. (2012). Recommendations of the Ohio Higher Education Funding Commission. *OhioHigherEd*. Retrieved from <https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/financial/ssi/Ohio%20Higher%20Education%20Funding%20Commission%20-%20Report.pdf>

institutions to collaborate rather than compete, developing a funding system that operated in the best interest of the state by advancing the student completion and success agenda. What resulted from the statewide collaboration is one of the most comprehensive performance-based funding systems in the United States, explained in greater detail within the Ohio Higher Education Funding Commission Report.⁷¹ Ohio's State Share of Instruction (SSI) now includes three formulas, one for each type of USO institution: university and regional campuses, community colleges, and technical centers. The creation of separate formulas enables each to better link the institutions' missions to their funding streams. While the universities are primarily funded based on degree completion and, to a lesser extent, course completion, the formula for community colleges is more nuanced. It includes indicators such as the completion of development education courses, the transition between development and college-level courses, the completion of 12, 24, and 36 credit-hours of college-level coursework, the number of associate degrees awarded, and the number of transfer students into a four-year school. Furthermore, all of Ohio's funding formulas reward the achievements of at-risk students as defined by economic, demographic, and college-preparedness data collected by the state. Limited funding was included in the budget to assist with transitioning off the previous stop-loss provisions, and to give institutions a chance to adjust over time to the new funding model.

For FY2015, two-year colleges are funded as follows:

- 50% course completions
- 25% completion metrics
 - » Students earning at least one associate degree.
 - » Students earning a certificate with at least 30 credit hours.
 - » Students enrolling for the first time at a four-year main campus or branch campus and have previously earned at least 12 college level credits at this community college.
- 25% Success Points—defined as:
 - » Students earning their first 12 credit hours.
 - » Students earning their first 24 credit hours.
 - » Students earning their first 36 credit hours.
 - » Students completing any developmental English in the previous year and attempting any college-level English either in the remainder of the previous year or any term this year.
 - » Students completing any developmental math in the previous year and attempting any college-level math either in the remainder of the previous year or any term this year.

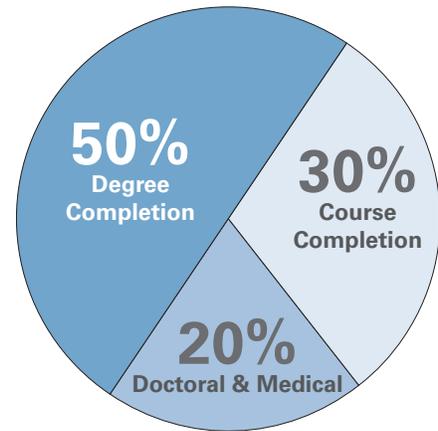


⁷¹ <https://ohiohighered.org/press/new-performance-based-model-higher-education-ohio>

For FY2015, four-year colleges are funded as follows:

- 50% Degree completion
- 30% Course completion
- 20% Doctoral and Medical

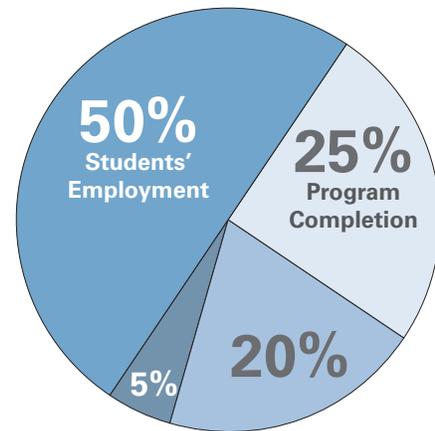
Additional weights are awarded for degree completion in STEMM fields. Course and degree completion rates are calculated on a three-year average.



Ohio Technical Centers

Ohio Technical Centers are a vital part of the University System of Ohio. The Centers provide pathways for adults to pursue professional certification and other career options as well as provide bridges to subsequent educational pursuits at community colleges or four-year institutions. Ohio has fully incorporated the centers into its higher education completion and student success agenda. To this end, a performance-based funding system was implemented for Ohio Technical Centers containing the following elements:

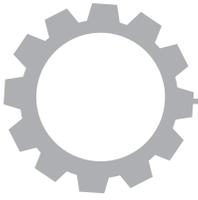
- 25% Program Completion
- 20% Retention for Students Completing 50 percent of a Program
- 50% for Students' Employment
- 5% for Industry-Recognized Credential
- Three-year Average Guarantee



Connections to Ohio's Workforce and Economy

Ohio's establishment of a comprehensive completion and student success agenda and a performance-based state funding system is expected to result in increased professional certificate and degree attainment. The primary intent is to assure that postsecondary education-to-career pathways provide credentials of value that benefit students and their families. Additional anticipated outcomes are the improved efficiency, effectiveness, and quality of USO institutions, and fulfillment of the state's overall workforce strategy to integrate educational outcomes and economic success for the state.

Over the course of the next year, a comprehensive set of metrics will be developed to track the effects of completion policies and performance funding being implemented at Ohio's institutions of higher education. This information will be analyzed against state workforce metrics to determine whether there are reliable correlations that can be made that will guide higher education and workforce policy moving forward.



Conclusion

There is a clear and comprehensive strategic investment in the state of Ohio to establish a robust, globally competitive workforce capable of meeting the needs of Ohio employers and providing the innovation to spur new industries and job creation. Yet there is a skills gap between the talent being produced and the talent Ohio businesses need to grow and expand into the future. Addressing these gaps is an economic imperative for the state and essential to securing its long-term prosperity.

University System of Ohio (USO) institutions are critical to the success of the state's investment as they hold the key to ensuring graduates possess the necessary skills and knowledge to advance their lives and careers, as well as meet the state's present and future workforce needs. USO institutions have a clear understanding of the role they play in providing a well-trained, critically thinking, workforce. Exciting practices are in place across the USO to enhance skill development and improve the overall quality of the educational experience. However, there is also an acknowledgment by USO institutions that much more work needs to be done to address the skills gap issue.

The Seventh Report on the Condition of Higher Education identifies several key areas that USO institutions must continue to address in order to maintain the forward momentum that has been created with respect to addressing the state's workforce challenges. The information below highlights some of the key conclusions reached in these areas:

Addressing the Skills Gap through Curriculum Innovation

Institutions must continue to develop systemic mechanisms to collaborate with Ohio business and industry to gather information on current skill needs and graduate performance. There are promising examples of collaboration across the USO that have led to substantial curriculum change and new knowledge and skill development. These changes have resulted in students being better prepared to meet employer demands upon transitioning into the workforce.

Enhancing Career Services

USO institutions must conduct a thorough assessment of the scope and quality of the services being offered through their career services operations. The assessment should include an analysis of whether career services are included within the strategic academic mission of the institution. Metrics should be established to determine if the existing services effectively assist students in their transition to the workforce, graduate school, or into other life plans. Institutions should also look for ways to connect systemically to state resources that expose students to job opportunities and Ohio employers.

Creating Quality Experiential Learning Opportunities

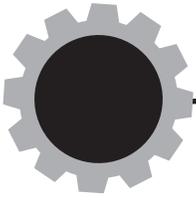
The Ohio Board of Regents must continue to work with institutions to ensure high quality co-op and internship opportunities are available across a wide variety of academic disciplines and are being utilized across all student demographics. Businesses believe that students who have participated in co-op and internship opportunities transition into the workforce more seamlessly. Faculty point to the role internships play in cementing skills taught in the classroom. Institutions must also pursue strategies to collaborate with mid-size and small businesses to develop internship and co-op programs to further expand student opportunities. There is also a need for institutions to develop strategies that broaden their access to and connections with state resources that expose students to co-op, internship, and apprenticeship opportunities.

Highly Trained Teaching Professionals

Students must have strong college and career ready skills by the end of their secondary education in order to improve their chances at postsecondary success. This in large part depends upon the ability of PreK-12 instructors to teach to high standards and make education relevant for students. To ensure that the state is producing quality teaching candidates, the Ohio Board of Regents must ensure that all teaching programs under its jurisdiction are training teaching candidates consistent with Ohio's most recently adopted learning standards. Ohio's teacher preparation programs must ensure that all teaching candidates graduating from their institutions are capable of teaching to Ohio's most recently adopted learning standards and be held accountable for results. The Ohio Board of Regents must work in conjunction with the Ohio Department of Education to continuously review licensure standards and make the necessary adjustments to ensure that educators remain relevant and competent.

Next Steps

The recommendations contained in this Report provide a guide to USO institutions for addressing many of the issues described above. None of these issues can be fully addressed by one institution. Success will take the collective efforts of USO institutions working in collaboration with state leaders and policy makers to achieve the desired result of a highly qualified, globally competitive, workforce. In this spirit, the Board requests the Chancellor to review the recommendations and work with OBR staff and appropriate stakeholders to develop an implementation plan (Plan). The Plan should be complementary to the Ohio Board of Regents agency priorities and other state priorities targeted at addressing workforce issues. The Chancellor has been asked to give updates on the development of the Plan, including identified priorities, at regularly scheduled Board of Regents meetings.



Appendix A

Quality and Value in Higher Education

“A Real Chance to Serve 21st Century Students”

A White Paper from the Ohio Faculty Council
Friday, April 11, 2014

I. Executive Summary:

The Ohio Faculty Council (OFC) is recognized by the Chancellor and the Ohio Board of Regents and represents the faculty at all of the four-year public universities in the State of Ohio. Ohio Governor John Kasich has launched an initiative to ensure Ohio’s public universities deliver greater value and quality to those they serve. Faculty have a unique perspective on how to best help our students succeed as a result of both their direct interaction with students, their parents and employers and also through their own training, research and experience.

Higher education in Ohio is at an important crossroads. Higher education has had a series of covenants with the State to address the changing needs of society. In the 20th century, higher education served as the foundation of economic development by focusing on producing graduates from traditional students (those who were well prepared and admitted directly from high school) who could lead the technological revolution. Today, 45% or more of working age adults in other states like Massachusetts, Maryland and Virginia have two- or four-year degrees compared to only 36% of working age adults in Ohio.

It is time for a new higher education covenant in Ohio that makes it easier for students who heretofore had not typically attended college to earn high quality and affordable degrees. The public institutions of higher education in Ohio must work cooperatively to realize affordable and accessible degree or certificate pathways for all primary areas of economic growth. They must also make available (in a format that facilitates direct comparisons) to every applicant a full disclosure and good-faith estimate of the costs, risks and rewards associated with completing a rigorous course of study.

II. The Higher Education Covenant:

- The majority of students currently graduating from high school are unaware of: 1) their own career options, 2) their own career potential, and 3) affordable delivery options and benefits.
 - Ohio’s higher education system must move to establish (and ultimately deliver upon) a meaningful and effective covenant with (heretofore non-collegebound) students and their parents. To be competitive in the global economy students can no longer be comprised primarily of the “top 25%” of high school graduates. Typical students will need to be drawn from populations that had previously been under-represented at colleges. Because almost
-

85% of students enrolled in college attend public institutions the faculty of Ohio's thirteen four-year state universities must be actively engaged in the development of this new covenant with this new cohort of students.

III. Definitions of Quality and Value:

- **Value:** Value is created for both the individual and the State to the extent to which graduating students are prepared for a productive career in their discipline of study – especially when that preparation is achieved through flexible modes of delivery and at an affordable cost.

Individuals, the State and employers all derive value from the shaping of responsible citizens and engaged employees that takes place during the course of a college education as students acquire healthier lifestyles and develop critical thinking and communication skills that are not directly linked to preparation for a specific job or career.

- **Quality:** Attaining a respected credential and the proficiencies in the fundamentals necessary to allow a re-crafting of an individual's professional skill set several times over the course of a working lifetime.

Higher education has been the source of the innovation that served as the foundation for economic development in the 20th century. A focus on recruiting students in the top 25% of their high school classes who were well prepared and admitted directly from high school resulted in quality being measured in terms of institutional selectivity and graduation rates. Broadening access to higher education will be essential to the future of Ohio's economy and quality of life. Quality must be assessed with new metrics that look directly at the value-added to students such as: fraction of classes taught by full-time faculty; course completion; graduate employment/satisfaction; employer satisfaction; experiential learning embedded in real-world contexts, and graduation. Employers and society in general should expect that college graduates are engaged employees/citizens with well-developed problem solving skills.

IV. Strategies for Ohio:

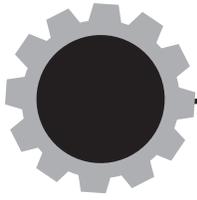
- Encourage Ohio's public institutions of higher education to align curricula to the needs of our emerging workforce.
 - » Maintain the balance between the need for specialized knowledge and the creation of a foundation that will facilitate the re-crafting of skill sets to meet emerging opportunities three or four times during the course of a productive career. Traditional academic disciplines should be actively encouraged to continue to develop interdisciplinary programs and training opportunities.
 - » Strengthen a rigorous core demonstrably-relevant to major degrees.
 - » Evaluate and support all proposed programs of study on the basis of how well they are aligned with the individual institution's mission and their students' needs.
- Implement an Ohio Academic Coaching paradigm (with investments in systems, facilities, and people) with the goals of:
 - » Individually assessing career aptitude to enable an informed choice of career pathway options.

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- » Individually assessing current level of preparation as projected onto career choice options.
 - » Individually assessing financial return on investment and financial viability of academic pathway options.
 - » Individually developing a pathway and a plan to bring a student to their credential and employment goal that is consistent with their abilities and interests.
 - Plan includes support services, especially for the first-level transition from high school to Ohio's higher education.
 - Plan includes a personalized academic program of study incorporating relevant courses. This plan would ideally include the option of courses from multiple Ohio public institutions delivered accessibly (e.g. on-line and at a variety of different times) and affordably.
 - Plan includes substantial academic mentoring, support services, and intervention. All students should be regularly apprised of the consequences (both pro and con) of changing majors or dropping courses.
 - Plan includes direct ties to and collaboration with employers appropriate for the second transition from higher education to employment.
 - » Scaling up successful programs like College Now (www.collegenowgc.org; formerly Cleveland Scholarship Program) that create a college-going culture in low-income households and among first-generation college students and then helps those students adapt to college life through on-going guidance and access to funds to prepare for and graduate from college.

V. Implementable Ideas:

- Ohio's public educational institutions will work cooperatively to realize a competitively-affordable and accessible degree or certificate pathway for all primary areas of economic growth and for every significant (though disparate and diverse) group of Ohioans. These degree or certificate pathways will include course options from all interested Ohio public institutions and include a wide range of delivery modalities.
- Ohio's public educational institutions will make available (in a format that facilitates direct comparisons) to every degree or certificate applicant a full disclosure and good-faith estimate of:
 1. the required investment on the part of the student (in terms of cost and time) and the State (in terms of anticipated State support),
 2. the incurred risk (completion rate),
 3. the anticipated reward (in terms of projected employment opportunities in Ohio & typical starting salary ranges), and
 4. the track record of delivering on this covenant (in terms of compiled feedback from graduates/dropouts and employers as well as metrics such as: the fraction of classes taught by full-time faculty; course completion rates, and social mobility).

For an electronic version of the Ohio Faculty Council White Paper please visit: http://www.wright.edu/administration/senate/documents/OFC_QV%20White%20Paper.pdf



Appendix B

Ohio Third Frontier Internship Program

The Ohio Third Frontier Internship Program is developing a pool of talented workers for Ohio for-profit companies and exposing students to the strategies and processes of business environments by creating student work experiences for Ohio residents. The program links college students with Ohio for-profit companies commercializing new products, technologies and processes in the technology areas of advanced energy; advanced materials; advanced propulsion; biomedical; instruments, controls and electronics; and information technology.

Ohio Third Frontier Internship Program funds are competitively awarded to regional partners located within the six Ohio Third Frontier defined regions – northeast (two regional partners), northwest, central, west central, southeast (two regional partners), and southwest. Regional partners are Ohio nonprofit organizations representing professional and/or business associations, regional economic development organizations, or One-Stop employment centers. The regional partners serve as the conduit for investing in student internships at for-profit Ohio companies. Students and companies interested in participating in the program can register at www.thirdfrontierintern.ohio.gov or contact the Office of Technology Investments at the Ohio Development Services Agency by calling (614) 466-3887.

Funding

For-profit companies will be provided up to \$3,000 for each eligible internship (full- or part-time opportunity). Ohio Third Frontier Internship Program funds must be matched with private funds on a 1:1 cash basis, which could equate to \$6,000 in earnings over one year for a student intern.

Students and Internships

Internships are for eligible Ohio students enrolled at an Ohio higher education institution. They must be in good academic standing (2.5 GPA or higher) and currently registered as a second-year technical or community college student; a sophomore, junior or senior at a four-year institution; or a master's degree or doctoral candidate in high-tech graduate studies in an approved high-tech curriculum. Internships are to be associated with a defined high-tech category for a limited period of time (at least 10 weeks of full-time employment or 20 weeks of part-time employment).

For-profit Companies

Companies must be registered to do business in Ohio and have a principal place of business in Ohio at which a qualifying internship will be conducted. Companies must provide valid high-tech internships in one of the Ohio Third Frontier technology focus areas.

Appendix B.1: Insurance Industry Careers (Inventory Sample)

CLAIMS REPRESENTATIVE

What do they do? Obtain information from insured or designated persons for purpose of settling claim with insurance carrier. Process applications for, changes to, reinstatement of, and cancellation of insurance policies.

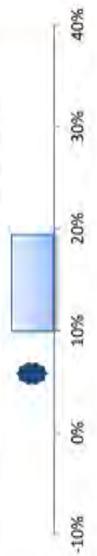
Some typical job duties include:

- Interview clients and take their calls to provide customer service and obtain information on claims.
- Process, prepare, and submit business or government forms, such as submitting applications for coverage to insurance carriers.
- Process and record new insurance policies and claims.

People with these roles and responsibilities are also called:
 Claims Service Representative, Claims Technician, Claims Examiner, Claims Processor, Insurance Specialist, Claims Adjudicator, Claims Adjuster, Administrative Underwriter, Claims Clerk, Account Administrator, Agency Service Representative, Processing Clerk, Field Secretary, Customer Service Technician, Insurance Analyst, Premium Representative

Ohio Job Outlook

“Slower than average” (+6.2%)



Projected % change in number of jobs by 2020
 Note: Blue band = Average growth (10% to 19%)

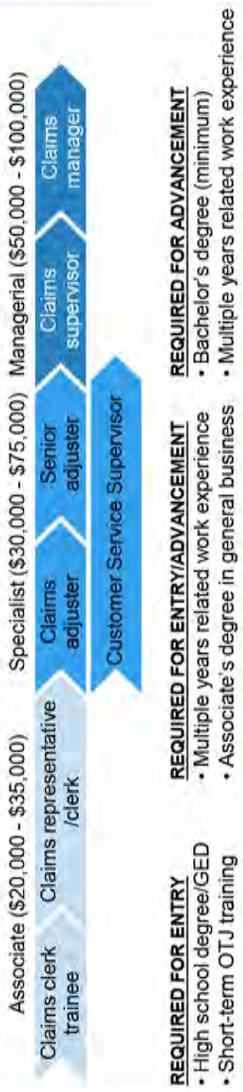
National Job Outlook through 2020: 8.7%

Most Important Occupational Skills

- | | | |
|--|---|---|
| BASIC SKILLS | PROBLEM SOLVING SKILLS | SYSTEMS SKILLS |
| <ul style="list-style-type: none"> • Active Listening • Reading Comprehension • Speaking | <ul style="list-style-type: none"> • Complex Problem Solving | <ul style="list-style-type: none"> • Judgment and Decision Making • Systems Analysis • Systems Evaluation |
| SOCIAL SKILLS | TECHNICAL SKILLS | RESOURCE MANAGEMENT SKILLS |
| <ul style="list-style-type: none"> • Social Perceptiveness • Service Orientation • Coordination | <ul style="list-style-type: none"> • Programming • Quality Control Analysis | <ul style="list-style-type: none"> • Time Management • Mgmt of Personnel Resources • Mgmt of Financial Resources |

The most important skills required for performing this job well are underlined.

Career Pathway and Educational Requirements



How much did these jobs pay in 2012?
 Average: \$36,230 per year (\$17.42 per hour)

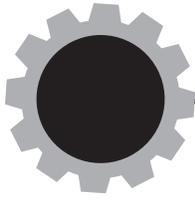
SOME CERTIFICATIONS THAT CAN HELP YOU ADVANCE:
 Accredited Customer Service Representative (Independent Insurance Agents of America, available online)
 Certified Insurance Service Representative (The National Alliance for Insurance Education & Research, available online)
 Associate in Customer Service (Life Office Management Association, available online)

To see all 30 insurance career pathways in a complete summary guide please visit: <http://files.insurancecareers.org/selecting-a-career/featured-careers/Insurance-Careers-30-Career-Pathways.pdf>

Appendix B.2: Career Services Landscape Survey Questions

1. Explain your career services strategy and goals.
 2. What is the primary access point for career services? (i.e. through colleges or departments, institutional office, or combination)
 3. What is the process for connecting students with career services? Does the institution have a formal outreach plan? If so, please describe.
 4. How does your institution engage faculty in career development strategies and services?
 5. What career services are offered? (check all that apply)
 - a. Interest inventory
 - b. Job forecast outlook
 - c. Profiles of jobs related to major
 - d. Internship placement
 - e. Co-op placement
 - f. Apprenticeship placement
 - g. Resumé building
 - h. Job and resumé posting systems
 - i. Career fairs
 - j. On-site company recruitment/job interviewing
 - k. Alumni networking
 - l. Job shadowing
 6. What types of data elements are collected in the area of career services/advising? (check all that apply)
 - a. Number of students using services
 - b. Student demographics
 - c. Contact hours
 - d. Class year
 - e. Discipline (college, major)
 - f. Areas of interest
 - g. Type of support provided
 - h. Other, please list.
 7. Does your career services office collect student employment or job placement data? If so, what data elements do you collect and how does that collection occur?
 8. Do you currently use OhioMeansJobs.com (OMJ) as a job posting system?
 - a. Yes
 - b. No
-

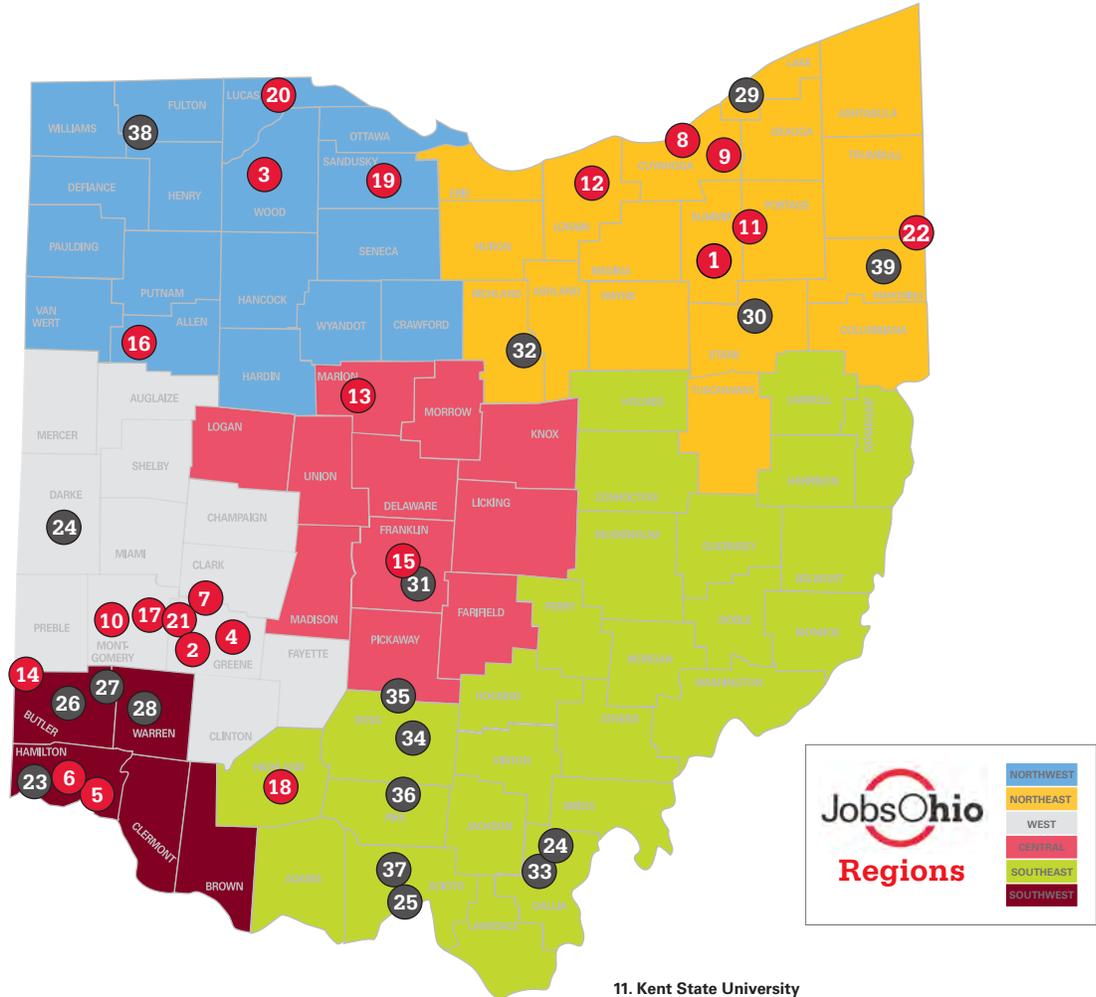
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9. If yes, to what extent?
 - a. We simply make students aware of OMJ as a potential tool
 - b. We use OMJ labor market information as part of career services but do not refer students to the system
 - c. Every student is encouraged to post their resumé to the system
 - d. We require students to post their resumé to the system
 10. If no, why not?
 - a. OMJ is not as robust as other tools we use (please list tool below)
 - b. We have a local community system (please list system below)
 - c. We find OMJ too difficult to use
 - d. Other (please list)
 11. Please identify what career services management system your institution uses.
 12. Describe your top three types of student audiences for your career services office. (Returning career changers, upper classman, particular disciplines on campus, etc.) Does anything in particular stand out about the effectiveness of outreach to any of these student populations or other marketing efforts at your institution?
 13. In what ways does your institution engage business in the career services/advising process?
 14. Where do you acquire the career data you share with students? List up to the top 12 resources used.
 15. What career or career pathways does your office feel they are best versed in as it relates to describing the detail of those careers to students? List the top five.
 16. What careers or career pathways do you wish you had more information about to share with students?
 17. What are your biggest challenges in providing the services students need the most?
 18. Are there any formal state, local, or institutional policies or practices that hinder your ability to provide career services to students?
 19. What program areas of your institution are your best partners as it relates to the career or career pathway discussion with students? What makes them such a good resource?
 20. When you review your menu of services to students and the preparation it takes to provide those services, where do you feel the core of your employees' time is spent? List the top three.
 21. What one or two things would you like to institute with faculty, teachers, adjuncts, and/or instructors that would assist your work with students?
-



Appendix C

Ohio Means Internships & Co-ops

January 2013 - June 2014



Lead Grantees (and their Partner Institutions)

1. The University of Akron

2. Antioch College

14. Miami University

3. Bowling Green State University

4. Central State University

5. University of Cincinnati

6. Cincinnati State Technical & Community College
23. College of Mount St. Joseph
24. Rio Grande Community College
25. Shawnee State University

6. Cincinnati State Technical & Community College

26. Butler Tech
27. Middletown City School District
28. Warren County Career Center

7. Clark State Community College

8. Cleveland State University

9. Cuyahoga Community College

9. Cuyahoga Community College

29. Lakeland Community College

10. University of Dayton

17. Sinclair Community College

● Lead Institution

● Partner Institution

Note: Some Lead Institutions are also Partner Institutions

11. Kent State University

12. Lorain County Community College

30. Stark State College

13. Marion Technical College

14. Miami University

15. The Ohio State University

31. Columbus State Community College
32. North Central State College

16. Rhodes State College

7. Clark State Community College
13. Marion Technical College

17. Sinclair Community College

18. Southern State Community College

33. Buckeye Hills Career Center
34. Ohio University - Chillicothe
35. Pickaway-Ross Career & Technology Center
36. Pike County Career Technology Center
37. Scioto County Career Technical Center

19. Terra Community College

20. The University of Toledo

15. The Ohio State University (College of Engineering)
38. Northwest State Community College

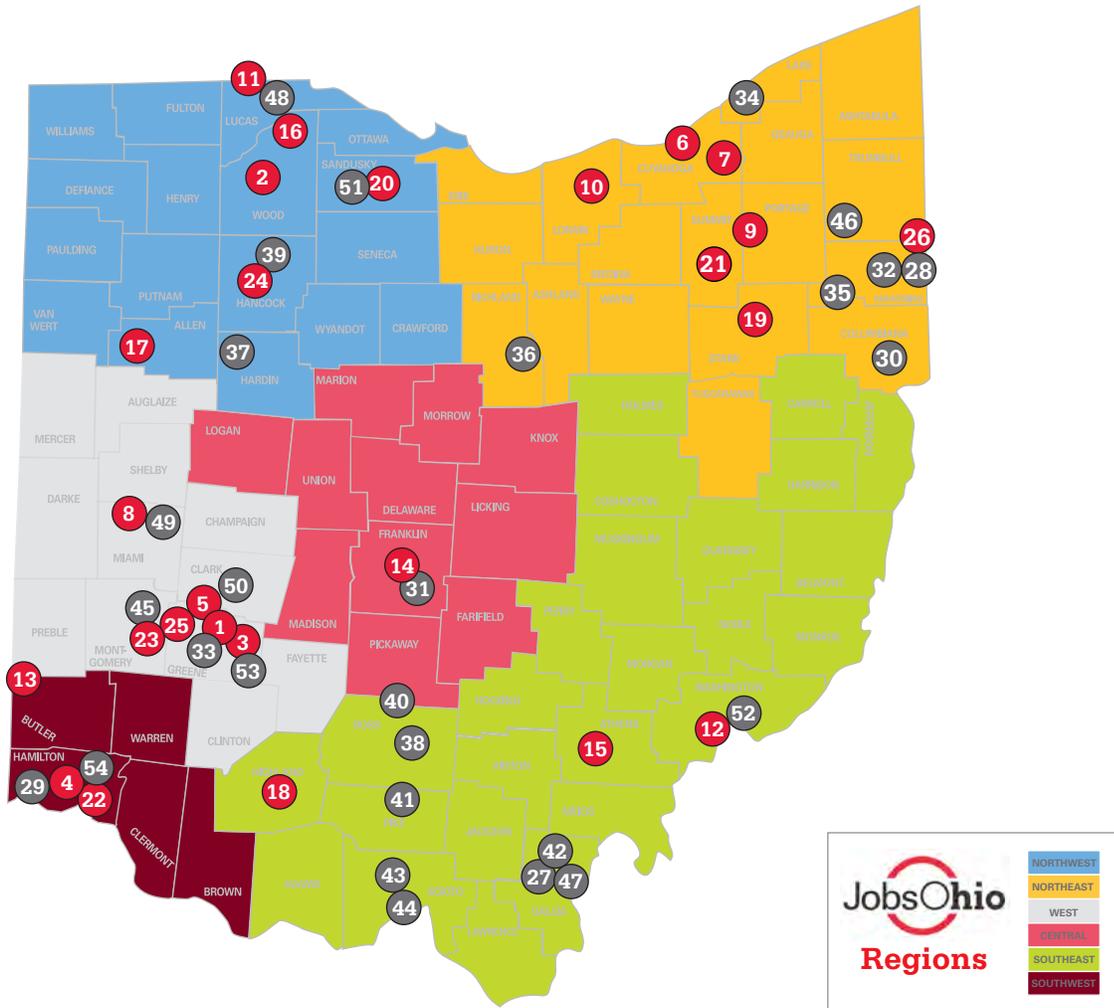
21. Wright State University

22. Youngstown State University

39. Eastern Gateway Community College

Ohio Means Internships & Co-ops

2014-2016 Grantees



Lead Grantees (and their Partner Institutions)

- 1. Antioch College**
13. Miami University
- 2. Bowling Green State University**
- 3. Central State University**
33. Greene County OTC
45. Sinclair Community College
53. Wilberforce University
- 4. Cincinnati State Technical & Community College**
- 5. Clark State Community College**
50. Urbana University
- 6. Cleveland State University**
7. Cuyahoga Community College
- 7. Cuyahoga Community College**
34. Lakeland Community College
- 8. Edison Community College**
49. Upper Valley OTC
- 9. Kent State University**
37. Ohio Northern University
- 10. Lorain County Community College**
- 11. Lourdes University**
48. University of Toledo
- 12. Marietta College**
52. Washington State Community College

- 13. Miami University**
- 14. Ohio State University**
31. Columbus State Community College
36. North Central State College
- 15. Ohio University**
- 16. Owens Community College**
- 17. Rhodes State College**
- 18. Southern State Community College**
27. Buckeye Hills OTC
38. Ohio University - Chillicothe
40. Pickaway-Ross OTC
41. Pike County OTC
43. Scioto County OTC
- 19. Stark State College**
- 20. Terra State Community College**
51. Vanguard-Sentinel OTC
- 21. University of Akron**
- 22. University of Cincinnati**
4. Cincinnati State Community & Technical College
29. College of Mount St. Joseph
42. Rio Grande Community College
44. Shawnee State University
47. University of Rio Grande
54. Xavier University

- 22. University of Cincinnati**
4. Cincinnati State Community & Technical College
29. College of Mount St. Joseph
42. Rio Grande Community College
44. Shawnee State University
47. University of Rio Grande
54. Xavier University
- 23. University of Dayton**
45. Sinclair Community College
- 24. University of Findlay**
39. Owens Community College (Findlay Campus)
- 25. Wright State University**
- 26. Youngstown State University**
28. Choffin OTC
30. Columbiana County OTC
32. Eastern Gateway Community College
35. Mahoning County OTC
46. Trumbull OTC

Appendix C.1: Lead Institutions by Region

Northeast Region

Lead Institutions: Cleveland State University, University of Akron, Kent State University, Youngstown State University, Lorain County Community College, Cuyahoga Community College

Partners: Lakeland Community College, Stark State College, Eastern Gateway Community College

JobsOhio Region: Team NEO - Northeast Ohio

Southeast Region

Lead Institution: Southern State Community College

Partners: Buckeye Hills OTC, Ohio University - Chillicothe, Pickaway-Ross OTC, Pike County OTC, Scioto County OTC

JobsOhio Region: Appalachian Partnership for Economic Growth (APEG) - Southeast Ohio

Central Region

Lead Institutions: The Ohio State University, Marion Technical College

Partners: Columbus State Community College, North Central State College

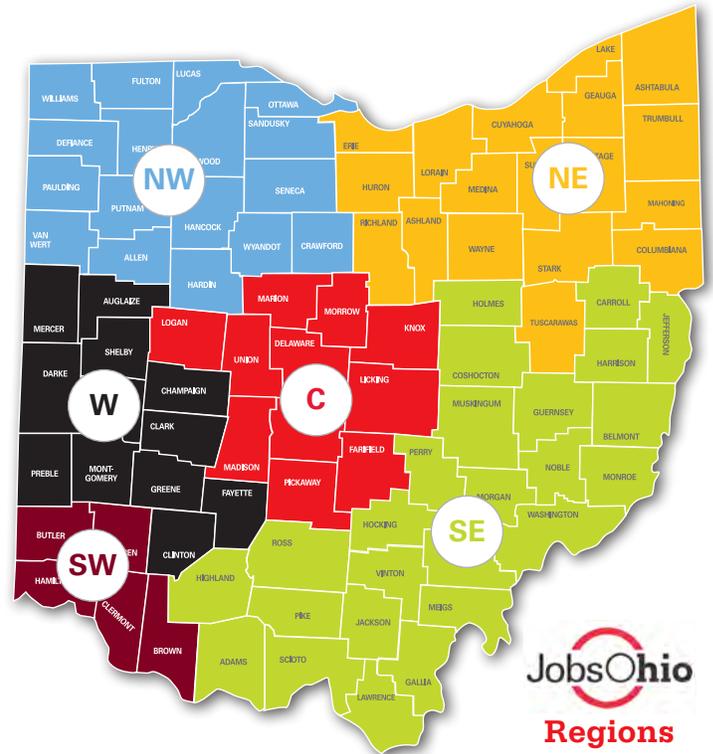
JobsOhio Region: Columbus 2020 - Central Ohio

Southwest Region

Lead Institutions: Cincinnati State Technical & Community College, University of Cincinnati, Miami University

Partners: Butler OTC, Middletown City School District, Warren County OTC, College of Mount St. Joseph, Rio Grande Community College, Shawnee State University

JobsOhio Region: Cincinnati USA Partnership - Southwest Ohio



West Region

Lead Institutions: Antioch College, Central State University, Clark State Community College, Sinclair Community College, University of Dayton, Wright State University

Partners: Miami University, Sinclair Community College

JobsOhio Region: Dayton Development Coalition - West Ohio

Northwest Region

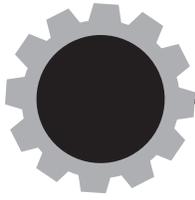
Lead Institutions: Bowling Green State University, Rhodes State College, Terra State Community College, The University of Toledo

Partners: Clark State Community College, Marion Technical College, Northwest State Community College, OSU College of Engineering

JobsOhio Region: Regional Growth Partnership - Northwest Ohio

Appendix C.2: Number of Students in Clinical, Field Experience, or Practicum Course Sections

Sector / Institution	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Community Colleges	14,349	16,975	17,788	21,007	20,738	21,207
Belmont Technical College	593	564	650	786	860	723
Central Ohio Technical College	1,026	917	1,049	1,308	1,314	1,229
Cincinnati State Tech. & Community College	1,764	1,795	1,730	2,204	2,634	2,585
Clark State Community College	354	205	406	404	151	675
Columbus State Community College	2,329	2,359	1,955	1,887	2,047	2,151
Cuyahoga Community College	1,279	1,295	1,201	1,253	1,194	1,746
Eastern Gateway Community College	235	251	205	266	268	271
Edison State Community College	47	216	274	295	403	347
Hocking Technical College	440	1,432	1,200	1,402	828	258
James A. Rhodes State College	1,062	1,064	1,158	1,252	1,355	1,306
Lakeland Community College	489	473	558	674	693	706
Lorain County Community College	1,340	1,245	1,574	1,766	1,379	1,358
Marion Technical College	489	599	599	703	710	643
North Central State College	74	62	101	468	561	602
Northwest State Community College	416	407	230	297	348	336
Owens State Community College	1,427	1,454	1,477	1,371	1,264	1,139
Rio Grande Community College						
Sinclair Community College	0	1,276	2,386	3,445	3,416	3,679
Southern State Community College	347	318	361	404	471	405
Stark State College of Technology	261	298	0	0	0	185
Terra State Community College	49	84	120	201	192	256
Washington State Community College	328	301	295	337	342	276
Zane State College	0	360	259	284	308	331
University Main and Regional Campuses	32,010	34,840	41,717	43,826	44,775	45,984
Bowling Green State University	407	544	841	1,468	1,610	1,483
Central State University	0	0	7	65	94	62
Cleveland State University	1,809	1,825	1,945	1,929	2,128	2,197
Kent State University	4,249	5,238	6,006	6,529	7,020	7,627
Miami University	478	528	1,687	2,600	980	1,196
Northeastern Ohio Universities College of Medicine	0	0	0	0	62	67
Ohio State University	7,339	7,612	7,908	7,774	7,425	8,215
Ohio University	1,863	1,736	5,612	5,320	5,526	5,417
Shawnee State University	0	317	692	741	839	550
University of Akron	1,813	2,148	2,637	3,316	3,737	3,414
University of Cincinnati	6,354	6,908	6,953	7,375	8,131	8,603
University of Toledo	4,532	4,614	3,961	3,078	3,235	3,292
Wright State University	1,509	1,698	1,812	2,085	2,265	2,135
Youngstown State University	1,657	1,672	1,656	1,546	1,723	1,726
STATEWIDE TOTALS	46,359	51,815	59,505	64,833	65,513	67,191



Appendix D

Spring 2014 Educator Preparation Program Condition Report Survey Results

Preparation for Ohio Learning Standards

Action Step	Programs Reporting Action Step
Implemented Curricular Changes	22
Designed Assessments Aligned to the New Standards	16
Strengthened Fieldwork and Clinical Experiences in K-12 Schools	17
Engaged Faculty in Shared Professional Development with K-12 Practitioners	11
Other	3

Preparation in Career Connections for Learning

Action Step	Programs Reporting Action Step
Provide Candidates Access to Career and Industry Information Resources	9
Community/Industry Engagement and Outreach Strategies in Curriculum	10
Engage Faculty in Professional Development with K-12 Practitioners	12
Other	4

Collaboration: Counselor, Teacher and Principal Prep Programs

Action Step	Programs Reporting Action Step
Provide Career Advising Module or Guest Lecture From Counselor Preparation Program Faculty For All Teacher and Principal Programs	4
Require Candidates to Attend a Career Fair and Write A Reflection On How to Embed Skill Contextualization and Career Exploration in Their Teaching	3
Require Career-Tech Center Placement as a Portion of Fieldwork Hours for Middle Childhood and Adolescence to Young Adult Candidates	3
Other	5

Principal Preparation Programs

Action Step	Programs Reporting Action Step
Provide Curriculum/Content on Resource Management that Places a Priority on Counseling Support for Students	7
Provide Curriculum/Content on Resource Management to Assure Counselors Are Utilized to Optimize Their Guidance Counseling Expertise, While Assigning Non-Counseling Tasks to Other Staff	5
Other	2
N/A – Institution Does Not Offer Principal Preparation	11

Professional Development

Action Step	Programs Reporting Action Step
Collaborate with Educational Service on Career Connections Professional Development for K-12 Practitioners and Educator Preparation Faculty	10
Provide Formalized Opportunities For Middle Childhood and Adolescence to Young Adult Educator Preparation Faculty to Engage with Career Services	6
Provide Formalized Opportunities For K-12 Practitioners and Educator Preparation Faculty to Engage with Regional Business and Industry Leaders	6
Other	0

Additional Action Steps Reported

- Career Services staff work with teacher candidates beginning in their freshman year.
- Faculty conduct ongoing professional development opportunities related to the implementation of Common Core Standards and Student Learning Objectives
- Offer professional development for Ohio’s New Learning Standards for practitioners
- Implementing a new course, “How to Use the Common Core Standards”



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