

10-Year Roadmap Issue Briefing

Challenge Area:

Institutional Capacity and Student Success

Planning Activity:

Strategic development and assessment of the skills, knowledge and experience students will need to succeed after graduation

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Summary

Brief Statement of the Issue: Recent national reports, employer surveys, and input during the Council's recent listening tour suggest that many students graduate from college without acquiring the core academic skills they will need to succeed. These are skills that employers are looking for in new hires and, more broadly, are crucial to graduates' success in an increasingly complex, modern economy and global society.

To develop a long term strategic plan for advancing student achievement in Washington, the Council seeks to (a) understand what the state's higher education institutions are currently doing to ensure that the college experience is preparing graduates to flourish in this rapidly changing environment, and (b) to explore policy options that could facilitate improvements in student learning outcomes.

Current Processes Established to Assure Student Learning in Washington: A number of mechanisms are currently employed at Washington higher education institutions to assess and improve institutional effectiveness with respect to student learning outcomes:

- Programs and majors are designed by experienced faculty, in collaboration with professional advisory boards, and continuously adjusted to incorporate ongoing changes and new emerging areas of specialization that might require new skills.
- Institutions have offices responsible for working with individual departments or colleges on assessment of student learning in an ongoing process of defining objectives, collecting feedback and measuring outcomes, and continuously refining educational programs.
- The regional accrediting agency aids institutions in developing thorough assessment practices.
- Feedback mechanisms have been established that provide valuable input from current students about their college experience, from alumni on how well it has prepared them for postgraduate success, and from the Washington business community on how well recent graduates are meeting employer expectations.

Policy Options for Consideration: It is clear that Washington's two-year and four-year institutions currently have a range of mechanisms to assess institutional effectiveness and guide new and continuing program development. Given these current activities, and in light of employer feedback suggesting that more could be done, what other steps might be taken to help improve student learning outcomes at our colleges and universities? The following are policy options offered for consideration:

Identifying Key Skills for Postgraduate Success

- Expand use of employer surveys in the state to 1) more directly answer questions about how effective our higher education institutions are at providing students with core skills and knowledge and 2) help refine and improve educational programs.

Keeping Students Informed and Ensuring That Key Skills are Taught and Assessed

- Review assessment processes to see if more can be done to ensure sufficient focus on foundational career skills.
- Increase opportunities for Work-Integrated Learning.
- Improve pedagogical training and teaching support for doctoral students and faculty.

Coordinating Across Institutions

- Improve coordination across institutions to ensure alignment between postsecondary degree programs, student learning, and the needs of employers in the state through the use of fully-developed systems proven effective in other states, such as Tuning USA and tools developed by the Workforce Strategy Center.

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Context of the 10-Year Roadmap

Increasing educational attainment is vital to the well-being of Washington residents and to the health of our state's economy. In collaboration with interested citizens and representatives of the state's education system, the Washington Student Achievement Council proposes goals and strategies for increasing educational attainment. It accomplishes these tasks through a 10-year Roadmap and a two-year Strategic Action Plan. The Roadmap outlines strategies that address long-term degree production goals, higher education access and affordability, higher education finance planning and strategic investments, innovative methods for delivering educational services, and removal of obstacles for students transitioning through the educational system.

The first Strategic Action Plan was adopted by the Council and delivered to the Legislature and Governor in December 2012. It identified five critical education issues that represent both obstacles and opportunities for improving educational attainment. Those issues are being examined in greater detail during the development of the first Roadmap, which will be delivered to policy makers by December 1, 2013.

Five Challenge Areas

To inform the Council's work of creating the first Roadmap, work groups comprising Lead Washington Student Achievement Council Members, Council staff and External Work Group Members were formed to research, discuss, and develop issue briefings and policy recommendations for each of these five critical challenge areas. In addition, two of these challenge areas were further broken down into planning activities. The five challenge areas are:

1. **Student Readiness** (with four planning activities: Early Learning, Outreach and Support, Alignment and Remedial Postsecondary Education)
2. **Affordability**
3. **Institutional Capacity and Student Success** (with two planning activities: Meeting Increased Demand, and Assessment of Student Skills and Knowledge)
4. **Capturing the Potential of Technology**
5. **Stable and Accountable Funding**

Of course, each of these areas touch upon the others and, in some cases, they significantly overlap one another. As the Roadmap is developed, policy considerations and recommendations gleaned from each of these work groups will be pulled together in a cohesive plan of action.

Challenge Area: Assessment of Student Skills and Knowledge

The purpose of the following brief is to provide information to the Washington Student Achievement Council members on one specific challenge area – Assessment of Student Skills and Knowledge. This brief is intended to assist Council members in their work of developing the 10-Year Roadmap to raise educational attainment in Washington State.

Introduction

Recent national reports have made the case that many students graduate from college without acquiring some of the core academic skills that employers are looking for in new hires and that are crucial to graduates' success. In developing a long term strategic plan for advancing student achievement in Washington, the Washington Student Achievement Council is interested in understanding the implications for the state's institutions of higher education.

Toward that end, this policy brief has several purposes:

- Explore implications of the policy issue and the fundamental questions involved;
- Provide a brief overview of the recent literature on the issue and describe approaches proposed to address the challenge, including current practices in other states that have had positive results;
- Describe what is currently being done to assure that these foundational skills and knowledge sets are being acquired by students in Washington's higher education institutions; and
- Explore potential policy options for improving student learning with respect to these key foundational skills.

The Policy Issue

Washington higher education institutions need to produce graduates with the essential knowledge, proficiencies, and adaptive skills that are vital in a modern economy and a global society.

Questions to be Addressed

Identifying the needed skills: What specific procedures are in place at institutions to determine the knowledge and skills students will need to meet employer requirements? What mechanisms are in place to forecast future knowledge and skill needs?

Informing students of the skills they will need to succeed: What mechanisms are in place to ensure that students are sufficiently informed of the range of skills, foundational as well as occupation specific, that will be crucial to their success after graduation?

Assuring the skills are taught and assessed in the institutions: What specific procedures are in place within institutions to systematically structure exactly where and how in the required curriculum students develop the knowledge, skills and character to meet employer needs and contribute to civic society. Do institutions have systems for specifying particular courses, course sequences, and activities that will allow students to acquire the foundational career skills – in critical thinking, complex reasoning, writing, communication, and teamwork – that are crucial to long-term career growth and success?

Coordinating across institutions: Are adequate mechanisms in place to facilitate employer feedback and provide effective coordination across institutions to ensure alignment between postsecondary degree programs, student learning, and the needs of employers?

Background

During the course of the statewide listening tour the Council conducted over the early months of this year, members heard a recurring theme from employers: that the state's colleges and universities need to do a better job of preparing students with some of the core skills for employment. Some of these comments focused on what are commonly called "soft skills," related to knowing how to meet deadlines, present oneself in a professional manner, and work in team settings. Other comments expressed concerns over more foundational academic skills associated with communication proficiencies.

Recent employer surveys conducted by the Workforce Training and Education Coordinating Board provide corroborative evidence for these concerns in the business community.¹ Among the skill categories employers most frequently found lacking in job applicants were problem-solving (62 Percent), communication (53 percent), team work (39 percent), and writing (33 percent).

This suggests that there may be room for improvement in the way Washington's higher education institutions ensure that students obtain the foundational academic skills they will need for post-graduate success.

National Studies on Student Learning

A number of recent studies, some with prominent media coverage, have questioned the effectiveness of our nation's colleges and universities at providing students with the key skills and knowledge that are crucial to success after graduation.

Derek Bok: For example, Derek Bok, former president of Harvard University (1971-1991), sounded an alarm in 2006 with his book, *Our Underachieving Colleges, A Candid Look at How Much Students Learn and Why They Should Be Learning More.*² Using data from a range of national studies,³ he argued that although our nation's colleges and universities provide undeniable benefits, they "accomplish far less for their students than they should.

Many seniors graduate without being able to write well enough to satisfy their employers. Many cannot reason clearly or perform competently in analyzing complex, non-technical problems, even though faculties rank critical thinking as the primary goal of a college education. . . . [and most] have never taken a course in quantitative reasoning or acquired the knowledge needed to be a reasonably informed citizen in a democracy."

Bok offers the following suggestions for improving undergraduate education:

- Policymakers need to work with institutional leadership to require rigorous program evaluations and outcomes assessments of writing, speaking, reasoning, and mathematical competencies and incorporate these results in curricular planning and resource allocations.
- Systems need to be in place to ensure that only competent, motivated, regular, and full-time faculty members teach the basic as well as the advanced courses, in which students are engaged in active learning.
- Requirements need to be established for all doctoral programs to include advanced studies in cognitive development and pedagogy.

National Commission on Writing: With respect to writing skills, a 2004 report released by the National Commission on Writing confirmed Bok's rather pessimistic view. In *Writing: A Ticket to Work. . . Or a Ticket Out*,⁴ a survey of business leaders' views, the Commission concluded that writing is a primary "threshold skill" for both employment and promotion in many fields, particularly for salaried employees. Those who cannot write and communicate clearly tend to be screened out as applicants or passed over for promotion.

Many employers surveyed displayed disappointment with the level of writing skills possessed by many recent college graduates. For example, the report quoted one respondent lamenting that "the skills of new college graduates are deplorable – across the board: spelling, grammar, sentence structure . . . I can't believe people come out of college now not knowing what a sentence is" and another that "recent graduates aren't even aware when things are wrong (singular/plural agreement, run-on sentences, and the like). I'm amazed they got through college."

Academically Adrift: Another study, published in 2011, that has received national attention is *Academically Adrift: Limited Learning on College Campuses*, by Richard Arum and Josipa Roksa.⁵ In this work, the authors conclude from their research that, on average, students tend to make only small gains in critical thinking and complex reasoning skills during college. Approximately 2,000 students participated in the study, recruited from 24 different four-year colleges and universities.

The authors' conclusions were based primarily on a comparison of participant results on the Collegiate Learning Assessment, a test designed as a standardized measure of critical thinking and complex reasoning skills, which was administered at the beginning and end of their first two years in college. In a subsequent extension of this study,⁶ Arum and Roksa examined the results after four years of college. They found that over the first two years students tended, on average to improve their results on the Collegiate Learning Assessment by about 7 percentile points. Thus, if they placed at the 50th percentile when they entered college, they tended to be at the 57th percentile after two years. Over four years of college, students tended to improve, on average, by about 18 percentile points. Thus, students beginning at the 50th percentile tended to function at the 68th percentile four years later.

The primary factor driving this lack of academic progress, according to Arum and Roksa, is a lack of rigor. The study also included student surveys on their academic experience, which showed that 32 percent of the students each semester did not take any courses with more than 40 pages of reading assigned a week, and half did not take a single course in which they were required to write more than 20 pages over the course of a semester. The authors also noted that students reported spending, on average, only about 12-14 hours a week studying, and that much of this time was spent studying in groups.

The following are among the key suggestions Arum and Roksa put forward for improving undergraduate education:

- Mechanisms need to be in place to ensure that curricula and instruction advance academic rigor.
- Faculty should be adequately trained in pedagogy and supported by their institutions to serve as effective instructors.
- Colleges and universities should consistently collect diverse, comprehensive sources of evaluation and assessment data to improve instruction and student learning on an ongoing basis.

Critical Reaction to *Academically Adrift*: This study attracted a fair amount of criticism on methodological grounds.⁷ Critics have offered a number of reasons for approaching the study results with caution: 1) the study participants were not randomly selected, 2) more than 50 percent of the original study group dropped out of the experiment midway through, 3) the main instrument relied upon to test the skills of the participants, the Collegiate Learning Assessment test, makes the whole study difficult to assess and replicate because all details of how the test results are rated and scored are opaque, due to proprietary secrecy, and 4) though the improvement in test scores appears to be modest, we currently have no operational definition of the level of skills gain we *should* see if the institutions were doing an effective job to which we can compare them.

Ernest Pascarella – A Replication Study: To test the robustness of the *Academically Adrift* results, Ernest Pascarella, Chair of Higher Education at the University of Iowa and co-director of the Center for Research on Undergraduate Education, has conducted a replication study. Using a different sample of students, selected from different institutions, and a different standardized measure of critical thinking, Pascarella arrived at similar findings. He concluded that the results of *Academically Adrift* are “not the artifact of an anomalous sample or instrument and need to be taken seriously.”⁸

Association of American Colleges and Universities Employer Survey: The results of a 2009 national opinion survey of employer views of recent hires with either a two-year degree or a four-year degree, conducted on behalf of the Association of American Colleges and Universities, reveal that employers believe that student learning at both two-year and four-year colleges needs improvement.⁹

In answer to a question regarding how well colleges and universities are doing in effectively preparing students for the challenges of today’s global economy, 68 percent responded that improvements are needed in the programs of four-year colleges and 60 percent responded that improvements are needed at two-year institutions. High percentages of employers felt that colleges need to increase their focus in the following areas: 1) written and oral communication (89 percent), 2) critical thinking and analytical reasoning (81 percent), 3) the application of knowledge and skills in real-world settings through internships or other hands-on experiences (79 percent), 4) complex problem-solving and analysis (75 percent), and 5) teamwork skills (71 percent).

What is Currently Being Done in Washington to Ensure or Improve Student Learning?

A number of mechanisms are currently employed at higher education institutions in the state to assess and improve institutional effectiveness with respect to student learning outcomes.

Programs are Designed and Continuously Adjusted to Provide Key Skills

Typically, Washington’s higher education institutions use the following primary mechanisms to ensure that programs provide the key knowledge and skills that employers expect:

- Programs are designed by faculty who strive to remain current in their fields. Programs and majors are continuously adjusted to incorporate ongoing changes in particular fields and new emerging areas of specialization that might require new skills.
- In designing programs and majors, professional advisory boards, with representatives from Washington industries and employers, are consulted. These advisory boards review program requirements and curricula to ensure that students are receiving the training they need to be current and successful in their fields.

Student Learning Assessment

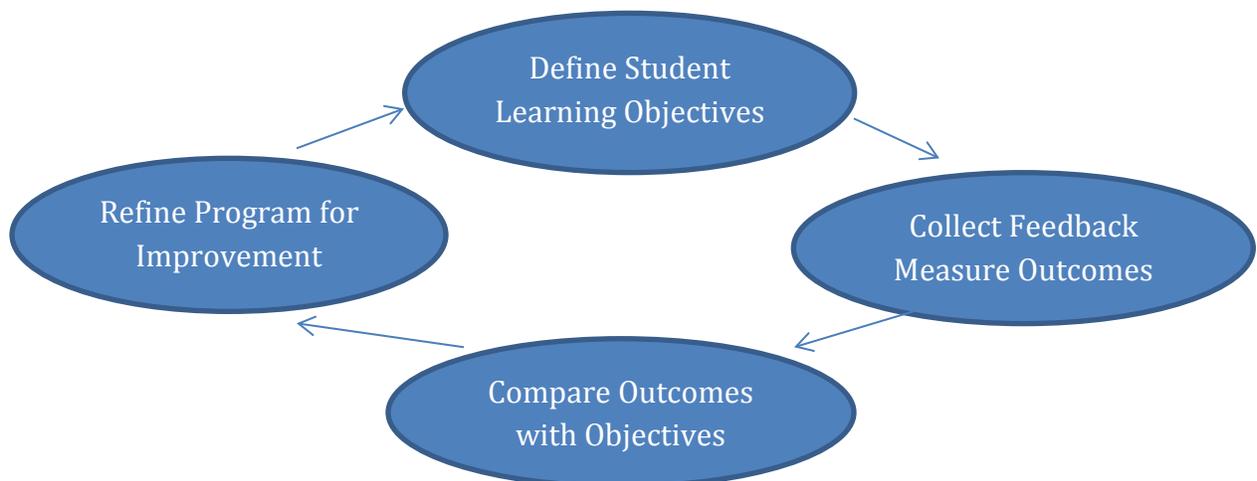
Institutional Assessment Procedures: Higher education institutions in Washington generally have offices responsible for working with individual departments or colleges on assessment of student learning. Their goal is to ensure continuous improvement of undergraduate academic programs. In some institutions, this is a separate office dedicated explicitly to that purpose, such as the Office of Educational Assessment at the University of Washington and the Office of Assessment of Teaching and Learning at Washington State University. In others it is one of the functional responsibilities of their institutional research departments.

Among the core functions of these institutional assessment offices are:

- Developing and implementing assessment systems in order to improve student learning outcomes.
- Designing, managing and interpreting web-based evaluations and surveys to provide feedback on the effectiveness of programs.
- Ensuring that the institutions meet assessment requirements for regional accreditation and academic program review.

Typically, this is an iterative process, involving a progressive, cyclic course of defining objectives, collecting feedback and measuring outcomes, and program refinement.

Iterative Assessment Process



Accreditation Review: One of the primary vehicles for assessing the effectiveness of higher education institutions in the state is the accreditation review process of the Northwest Commission on Colleges and Universities (NWCCU).

The NWCCU is an independent, non-profit organization that is recognized by the U.S. Department of Education as the regional authority on educational quality and institutional effectiveness of higher education institutions in the seven-state Northwest region, which includes Alaska, Idaho, Montana, Nevada, Oregon, Utah, and Washington.

Accreditation by NWCCU qualifies institutions and enrolled students for access to federal funds to support teaching, research, and student financial aid. It provides accreditation for all public higher education institutions and most of the private institutions in the state. Those not covered by NWCCU (primarily religiously affiliated or career based single-purpose institutions) are accredited by national accrediting organizations.

In its accreditation review process, the NWCCU requires each higher education institution to demonstrate that it has mechanisms in place to assure effectiveness and continuous improvement of its academic programs. Along with other criteria, institutions must show that they:

- Engage in ongoing systematic collection and analysis of quantitative and qualitative data for use in evaluating the accomplishment of clearly identified program goals and student learning objectives.
- Document, through an effective, regular, and comprehensive system of assessment of student achievement, that students completing its educational courses, programs, and degrees achieve identified course, program, and degree learning outcomes.
- Evaluate the alignment, correlation, and integration of programs and services as they relate to the accomplishment of core objectives.
- Assure that assessments of programs and services are: a) based on meaningful institutionally identified indicators of achievement and b) used for improvement by informing planning, decision making, and allocation of resources and capacity.

Feedback Mechanisms

A number of feedback mechanisms have been established to provide opportunities to gain valuable input from current students about their college experience, from alumni on how well it has prepared them for postgraduate success, and from the Washington business community on how well recent graduates are meeting employer expectations.

Employer Survey: Since 1999, the Workforce Training and Education Coordinating Board has conducted an Employer Needs and Practices Survey every two years in collaboration with the Association of Washington Business and the Washington Chamber of Commerce Executives. This is currently the only comprehensive survey in the state focusing on the skills businesses need and how well our education system is doing in meeting the challenges of preparing Washington's workers for existing and future jobs.

The 2012 survey included the responses of 2,800 employers in the state who answered a series of questions regarding hiring challenges. Some of their responses highlight education and skill gaps among job applicants and new employees.

Some of the key findings of the 2012 survey include:

- A substantial number of employers reported difficulty finding qualified applicants with higher education degrees at various levels: associate (54 percent), bachelor's (52 percent), master's (30 percent), doctoral (18 percent).
- Among the skill categories employers most frequently found lacking in job applicants were 1) occupation-specific (85 percent), 2) problem-solving (62 Percent), 3) communication (53 percent), team work (39percent), and writing (33 percent).

Joint Report on an Educated and Skilled Workforce: Prior to July, 2012, the Washington Higher Education Coordinating Board, in collaboration with the Workforce Training and Education Coordinating Board and the State Board for Community and Technical Colleges, prepared biennial reports on projected employer workforce needs. The reports included analysis of the gap between the number of degrees produced in key fields and the number of openings projected in Washington firms. The Council, in collaboration with the other agencies, has continuing responsibility for this project and will issue a new report later this year.

Washington Career Bridge: Washington Career Bridge¹⁰ is an online career and education planning resource. The site is maintained by the Workforce Training and Education Coordinating Board in partnership with the labor and business community and is designed to help Washington residents succeed by providing information about job trends, average earnings for various careers, employment outlooks, and education requirements and degrees needed for different types of jobs.

Student and Alumni Surveys: Most of the higher education institutions in the state conduct a variety of student surveys at different stages of students' academic programs. They also conduct alumni surveys for those who have completed. Typically, these surveys canvass the opinions of new freshmen, sophomores, graduating seniors, and alumni on such topics as the quality of instruction, the quality of faculty, their satisfaction with academic and professional advising, course availability, and career preparation.

National Survey of Student Engagement / Community College Survey of Student Engagement: Most of the four-year institutions in the state participate in the annual National Survey of Student Engagement (NSSE)¹¹ and the two-year institutions participate in the Community College Survey of Student Engagement (CCSSE), which are designed to collect information about student participation in programs and activities in the course of their learning and personal development.

The results provide an estimate of how students spend their time and what they gain from attending college. Student engagement represents two critical features of collegiate quality. The first is the amount of time and effort students put into their studies and other educationally purposeful activities. The second is how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning. These surveys do not assess student learning directly, but survey results point to areas where colleges and universities are performing well and where aspects of the undergraduate experience could be improved.

Policy Options for Consideration

It is clear that both two-year and four-year institutions in Washington currently have a range of mechanisms in place to assess institutional effectiveness and to guide continuing program development. However, with full recognition of these activities they are already engaged in, given employer feedback in this area, one can still reasonably ask what other steps might be taken to help improve student learning outcomes at our colleges and universities. The following are some policy options offered for consideration.

Identifying the Needed Skills

The use of employer surveys and employment trend data in the state could be expanded to more directly answer questions about how effective our higher education institutions are at providing students with the skills and knowledge that employers are looking for in applicants. This could be approached in the following ways:

- Expand and fine-tune the employer survey mechanism that is currently administered by the Workforce Training and Education Coordinating Board to include a range of questions designed to measure employer perceptions of and satisfaction with the skills and knowledge of recent graduates at all levels. Currently, this survey tool is primarily directed at gathering information about employer experiences with applicants and new employees who have completed vocational certificate programs or associate degrees. The survey could be broadened to include more information about employer perceptions and experiences with recent graduates at all levels.
- Develop a separate survey mechanism that is specifically designed to answer the questions raised in this policy brief regarding how well higher education institutions in the state are ensuring that student learning outcomes are aligned with employment opportunities and providing the foundational skills graduates will need for success.
- Expand use of data from the biennial reports on A Skilled and Education Workforce, produced by the Washington Student Achievement Council in collaboration with the Workforce Training and Education Coordinating Board and the State Board for Community and Technical Colleges, for the purpose of better aligning higher education programs and employer needs.

Informing students of the skills they will need to succeed and ensuring the skills are taught and assessed in the institutions

Educational Assessment Should Include Sufficient Focus on Foundational Career Skills: Ensuring that program assessment processes at the institutions include a sufficient focus on foundational career skills associated with critical thinking, complex reasoning, problem solving, team collaboration, and writing requires that programs and majors be continually assessed and adjusted for improvement.

Work-Integrated Learning: Through expanded opportunities for internships or other forms of Work Integrated Learning (WIL), students would benefit from and gain key insights into skills needed in the workplace. In Work Integrated Learning, students

undertake work-related projects or placement in a work environment as part of their study programs. WIL placements are coordinated to permit students to complete both the placement and their classroom commitments within an academic term or year. This is an effective way of ensuring that students are job-ready when they graduate. It is also a great way for employers to build a 'talent pipeline' to assist them in selecting the best prepared students for positions that become available once students graduate.

Improved Pedagogical Training for Doctoral Students and Faculty: Faculty and doctoral students should be adequately trained in pedagogy and supported by their institutions to serve as effective instructors. One consideration might be to require that all doctoral programs include advanced studies in teaching practices and student learning.

Coordinating across institutions

Mechanisms for sharing information regarding effective practices and ways to cooperate in meeting employer demand for skilled and educated workers in the state could be developed and expanded. Currently, there is a tendency for institutions to assess student learning and alignment with employer demand within independent silos. The institutions, as well as the entire higher education sector viewed as a system, could benefit from mechanisms of cooperation.

Other states have practices that could be adapted in Washington to improve program design and better align student learning outcomes with employer needs.

For example:

Tuning USA: Tuning USA¹² is a faculty-driven process designed to provide a comprehensive mechanism, involving inter-institutional collaboration, for identifying what students should know, understand, and be able to do in a chosen discipline at the completion of a degree or professional program. The goal is to make these learning outcomes readily understood by students, faculty, family, employers and other stakeholders. Tuning is an initiative that originally started in Europe in 2000. The phenomenon subsequently spread to Latin America in 2005, to the United States in 2009, and is currently in the planning or implementation stage in Russia, Australia, and Japan. In the U.S., the program is funded by the Lumina Foundation for Education and The William and Flora Hewlett Foundation.

The process is focused on defining key areas of competency, identifying learning outcomes, and scaling competencies and outcomes to varying degree levels. Tuning is designed to proceed under the fundamental premises that 1) curricula should not be standardized, 2) faculty must control the discipline, and 3) academic autonomy and flexibility should be preserved. Thus far, the following states have begun to implement the Tuning process: Indiana, Minnesota, Utah, Texas, and Kentucky.

The Workforce Strategy Center (WSC)¹³ is a resource that could be employed to improve the alignment of student learning in the state with employer needs and employment opportunities. This center, based in Rhode Island, is a national consulting think tank that advises policymakers in education, workforce and economic development organizations, and employers to develop strategies that help students and workers succeed and regional economies grow.

Their activities include the following:

- **Job Ready:** Job Ready is a tool that provides a means of assessing the alignment of the content of an academic course or program with the job skills required for employment in local businesses or industries.¹⁴ This tool is designed to aid in the prioritization of courses that could be improved through fine tuning or that might need more detailed review and revision. Inputs include curriculum details uploaded by faculty, work order and job opening information uploaded by local businesses and industries, and occupational demand projections. This data is then translated into a common skills language and aggregated into a labor market value index that shows to what extent a course or program develops the skills that students will need to compete for jobs in a particular labor market.

- **Career Pathways Systems:** The Workforce Strategy Center also works with state leaders to better align education policies with employer demand, in part through the development of effective connections and feedback mechanisms. For example, the WSC has consulted in the development of :
 - *The Virginia Career Pathways Initiative*¹⁵
 - *The Minnesota Career Pathways Initiative*¹⁶

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