

# The LEAP Vision for Learning

Liberal Education & America's Promise

\* \* \* \* \* \* \* \* \* \* \* \* \* \*

Excellence for Everyone as a Nation Goes to College





1818 R Street, NW, Washington, DC 20009

Copyright  $\ensuremath{\mathbb{C}}$  2011 by the Association of American Colleges and Universities. All rights reserved.

ISBN 978-0-9827850-1-0

The complete text of the LEAP report is available online at www.aacu.org. To order print copies, or to learn about other LEAP publications, visit www.aacu.org/leap, e-mail pub\_desk@aacu.org, or call 202.387.3760.



# The LEAP Vision for Learning

OUTCOMES, PRACTICES, IMPACT, AND EMPLOYERS' VIEWS



## Membership of the National Leadership Council for Liberal Education and America's Promise

**Derek Bok,** President Emeritus, Harvard University

Mark Bradley, Attorney, Ruder Ware LLSC

**Scott A. Brown,** Vice President, Worldwide Distribution, Cisco

**Anthony P. Carnevale,** Research Professor and Director, Georgetown Center on Education and the Workforce

**John Casteen,** President Emeritus, University of Virginia

**Mary Sue Coleman,** President, University of Michigan Ann Arbor

**Michelle Asha Cooper,** President, Institute for Higher Education Policy

Ronald A. Crutcher (Cochair), President, Wheaton College (MA)

**Troy Duster,** Director, Institute for the History of the Production of Knowledge, New York University

**Judith Eaton,** President, Council for Higher Education Accreditation

**James Gentile,** President, Research Corporation for Science Advancement

**Gina Glantz,** Fellow, Institute on Politics, Harvard University

**Freeman A. Hrabowski, III,** President, University of Maryland Baltimore County

**Sylvia Hurtado,** Director, Higher Education Research Institute, University of California, Los Angeles

**Wayne C. Johnson,** Former Vice President of University Relations Worldwide, Hewlett-Packard Company

**Roberts T. Jones,** President, Education & Workforce Policy, LLC

**George D. Kuh,** Chancellor's Professor Emeritus of Higher Education, Indiana University

**Barbara Lawton,** former Lieutenant Governor, State of Wisconsin

Eric Liu, Cofounder, True Patriot Network

**Azar Nafisi,** Visiting Fellow, Foreign Policy Institute, Johns Hopkins University

**Martha Nussbaum,** Ernst Freund Distinguished Service Professor of Law and Ethics, The University of Chicago

**Peggy O'Brien,** Chief, Office of Family and Public Engagement, District of Columbia Public Schools

**Keith J. Peden,** Senior Vice President of Human Resources, Raytheon Company

**Christi M. Pedra,** Senior Vice President for Strategy and Business Development, Siemens Healthcare

**Sally E. Pingree,** Trustee, Charles Engelhard Foundation

Lois Quam, Founder, Tysvar LLC

**Carol Geary Schneider,** President, Association of American Colleges and Universities

**Lee S. Shulman,** President Emeritus, the Carnegie Foundation for the Advancement of Teaching

**Donald M. Stewart,** Visiting Professor, University of Chicago, Former President, the College Board and Spelman College

**Diana Chapman Walsh,** President Emerita, Wellesley College

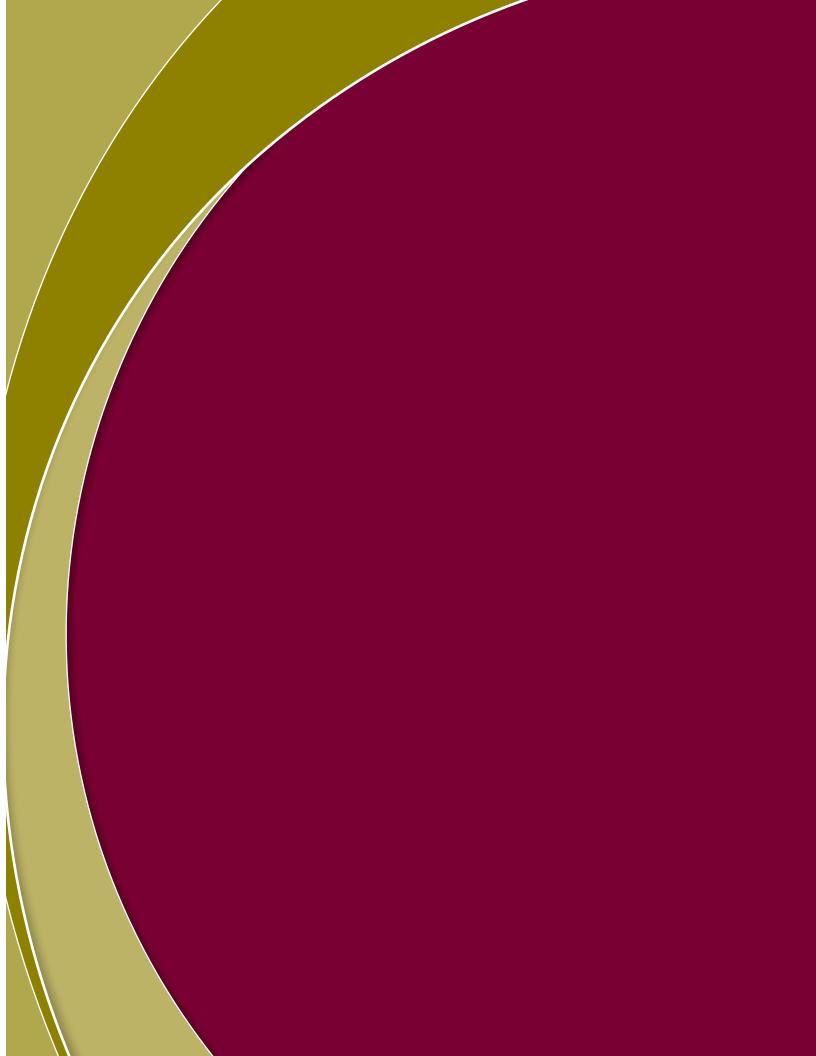
**Blenda J. Wilson,** President and CEO (retired), Nellie Mae Foundation

**Jack M. Wilson,** President, University of Massachusetts System



## Contents

Liberal Education and America's Promise (LEAP)	
★ An Overview of the LEAP Initiative	1
★ LEAP Vision for Learning in Brief	2
★ "Liberal Education" and Other Commonly Confused	Terms 3
College Learning for the New Global Century	
★ An Executive Summary of the LEAP Report	5
★ The Essential Learning Outcomes	7
★ The Principles of Excellence	10
The LEAP High-Impact Educational Practices	15
★ A Guide to High-Impact Practices	18
College and University Leaders on Learning Outcomes and	Practices 19
★ AAC&U Member Institutions' Learning Outcomes for	All Students 20
Employers Seek Essential Learning Outcomes and Endorse High-Impact Practices	23
★ Percentage of Employers Who Want Colleges to "Pla Emphasis" on Essential Learning Outcomes	ace More



## An Overview of the LEAP Initiative

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

Through Liberal Education and America's Promise (LEAP), AAC&U champions the value of a liberal education—for individual students and for a nation dependent on economic creativity and democratic vitality. Begun in 2005, and continuing through AAC&U's centennial year in 2015, LEAP engages the public with the importance of key liberal education outcomes for every college student. LEAP also is generating research on the key outcomes of a quality education and how well we are doing in providing students with these outcomes. Hundreds of colleges, community colleges, and universities are now working with LEAP to help their own students achieve a liberal education across all fields of study, including career and professional fields. Several state systems also have become LEAP partners.

#### **Campus Action Network**

Currently comprising more than 300 colleges and universities in every region of the country, the LEAP Campus Action Network brings together academic and student affairs leaders to share best practices in undergraduate education, strengthen educational achievement on their own campuses, and improve their abilities to communicate about the value of a liberal education in today's world. The LEAP Campus Action Network sponsors communications workshops, publishes tools for campus analysis and communications capacity building, and helps educational reformers across the country advance their work.

#### **National and State Advocacy**

AAC&U has formed a LEAP National Leadership Council (NLC) of business, academic, and policy leaders who are spreading the word about the importance of a quality liberal education to prepare today's students to compete in a new global economy and become active and engaged citizens of the nation and the world. In 2009, AAC&U announced a new Presidents'Trust for LEAP that now includes college and university presidents from all sectors of American higher education. With NLC and Trust leadership, LEAP sponsors public forums and campus action and advocacy efforts in LEAP states and with partner campuses. Campus, business, and policy leaders work in these states in concert with the K–12 community to communicate the importance of key liberal education outcomes and ensure that all college students achieve them.

#### **Research and Resources**

The LEAP initiative has published many national reports and sponsored several public opinion research studies. Its major national report, *College Learning for the New Global Century*, was issued in 2007 and describes the learning contemporary students need from college, and what it will take to help them achieve it. Based on input from educators and employers, the report has been widely distributed and has influenced hundreds of educational programs (see pp. 5–13 for an executive summary). LEAP also has released other reports on such topics as student achievement of key learning outcomes, making the case for liberal education, high-impact educational practices, and assessment of learning outcomes.

## LEAP Vision for Learning in Brief



Purposeful Pathways, Essential Learning Outcomes, High Student Achievement

#### STARTING IN SCHOOL ...

- ★ Rigorous and rich curriculum focused on the essential learning outcomes\*
- ★ Comprehensive, individualized, and learning-centered advising
- ★ Participation in service learning and civic engagement activities
- ★ Substantive culminating projects assessed for achievement of essential learning outcomes

### WITH A CONSTANT FOCUS ON THE ESSENTIAL LEARNING OUTCOMES...

- ★ From school through college
- ★ Across general education and majors, curriculum and cocurriculum
- ★ At progressively more challenging levels
- ★ Evaluated consistently through milestone and capstone assessments
- ★ For all students—including and especially those from underserved communities

## DEEPENED THROUGH CHALLENGING STUDIES IN COLLEGE, INCLUDING...

- ★ Broad integrative learning in the liberal arts and sciences—focused by engagement with big questions, both contemporary and enduring
- ★ Analytical, applied, and integrative learning across all major fields, both preprofessional and liberal arts and sciences
- ★ Active involvement with diverse communities, real-world problems, and social responsibility
- ★ Milestone and culminating experiences that connect general, major, and field-based learning

## ENRICHED BY STUDENT ENGAGEMENT IN HIGH-IMPACT EDUCATIONAL PRACTICES...

- ★ First-year seminars and experiences
- ★ Common intellectual experiences
- ★ Learning communities
- ★ Writing-intensive courses
- ★ Collaborative assignments and projects
- ★ Undergraduate research
- ★ Diversity and global learning
- ★ Service and community-based learning
- ★ Internships
- ★ Capstone courses and projects



<sup>\*</sup>For full list of essential learning outcomes, see page 7.

## "Liberal Education" and Other Commonly Confused Terms

**LIBERAL EDUCATION:** An approach to college learning that seeks to empower individuals and prepare them to deal with complexity, diversity, and change. This approach emphasizes broad knowledge of the wider world (e.g., science, culture, and society) as well as in-depth achievement in at least one specific field of study. It helps students develop a sense of social responsibility, strong cross-disciplinary intellectual and practical skills (e.g., communication, analytical and problem-solving skills), and a demonstrated ability to apply knowledge and skills in real-world settings.

LIBERAL ARTS: Specific disciplines (e.g., the humanities, sciences, and social sciences).

**LIBERAL ARTS COLLEGE:** A particular type of institution—often small, often residential—that facilitates close interaction between faculty and students, while grounding its curriculum in the liberal arts disciplines.

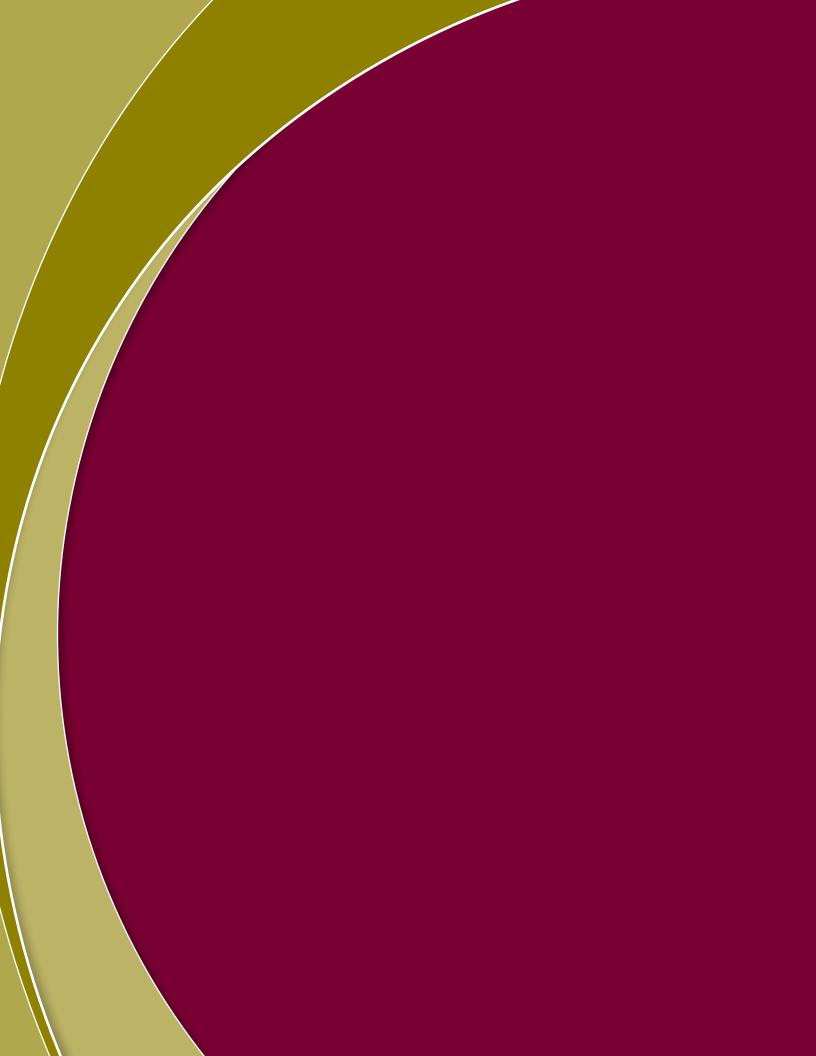
ARTES LIBERALES: The trivium (grammar, logic, and rhetoric) and the quadrivium (arithmetic, geometry, astronomy, and music), which together form the historical basis of the modern liberal arts.

**GENERAL EDUCATION:** The part of a liberal education curriculum that is shared by all students. It provides broad exposure to multiple disciplines and forms the basis for developing important intellectual, civic, and practical capacities. General education can take many forms, and increasingly includes introductory, advanced, and integrative forms of learning.

Adapted from Greater Expectations: A New Vision for Learning as a Nation Goes to College (Association of American Colleges and Universities, 2002).

"We have moved away from an ivory tower conception of the academy...and we have begun to invent a form of liberal education in which the world's most significant challenges contemporary as well as enduring—become a significant catalyst for new scholarship, new curricula, new sites for learning, and new applications of knowledge. So-conceived, liberal education is a necessity, not a luxury."

> Carol Geary Schneider, President, Association of American Colleges and Universities



## College Learning for the New Global Century: An Executive Summary of the LEAP Report

All the activities of the LEAP Initiative are guided by a vision and set of recommendations articulated in College Learning for the New Global Century, a report issued by the LEAP National Leadership Council in 2007 as a call to educators and to the nation to focus greater attention on a set of essential learning outcomes. In the LEAP report, NLC members argued that we must fulfill the promises of education for all students who aspire to a college education, especially to those for whom college is a route, perhaps the only possible route, to a better future. Based on extensive input from both educators and employers, the recommendations in this report respond to the new global challenges today's students face. The LEAP report describes the learning contemporary students need from college, and what it will take to help them achieve it. Below you will find an executive summary of the report. The full text can be purchased in print and is available free online at www.aacu.org/leap.

ollege Learning for the New Global Century is a report about the aims and outcomes of a twenty-first-century college deducation. It is also a report about the promises we need to make—and keep—to all students who aspire to a college education, especially to those for whom college is a route, perhaps the only possible route, to a better future.

With college education more important than ever before, both to individual opportunity and to American prosperity, policy attention has turned to a new set of priorities: the expansion of access, the reduction of costs, and accountability for student success.

These issues are important, but something equally important has been left off the table.

Across all the discussion of access, affordability, and even accountability, there has been a near-total public and policy silence about what contemporary college graduates need to know and be able to do.

This report fills that void. It builds from the recognition, already widely shared, that in a demanding economic and international environment, Americans will need further learning beyond high school.

"Student success in college cannot be documented—as it usually is—only in terms of enrollment, persistence, and degree attainment."

"In the twenty-first century, the world itself is setting very high expectations for knowledge and skill. In this context, educators and employers have begun to reach similar conclusions—an emerging consensus—about the kinds of learning Americans need from college."

The National Leadership Council for Liberal Education and America's Promise (LEAP) takes that recognition to the next level, asking: What kinds of learning? To what ends? Beyond access to college, how should Americans define "success" in college achievement?

The council believes that the policy commitment to expanded college access must be anchored in an equally strong commitment to educational excellence. Student success in college cannot be documented—as it usually is—only in terms of enrollment, persistence, and degree attainment. These widely used metrics, while important, miss entirely the question of whether students who have placed their hopes for the future in higher education are actually achieving the kind of learning they need for life, work, and citizenship.

The public and policy inattention to the aims, scope, and level of student learning in college threatens to erode the potential value of college enrollment for many American students. It has already opened the door to the same kind of unequal educational pathways that became common in the twentieth-century high school, which set high expectations for some and significantly lower expectations—expressed in a narrower and less challenging curriculum—for others.

In the twenty-first century, the world itself is setting very high expectations for knowledge and skill. This report—based on extensive input from both educators and employers—responds to these new global challenges. It describes the learning contemporary students need from college, and what it will take to help them achieve it.

#### **Preparing Students for Twenty-First-Century Realities**

In recent years, the ground has shifted for Americans in virtually every important sphere of life—economic, global, cross-cultural, environmental, civic. The world is being dramatically reshaped by scientific and technological innovations, global interdependence, cross-cultural encounters, and changes in the balance of economic and political power.

Only a few years ago, Americans envisioned a future in which this nation would be the world's only superpower. Today, it is clear that the United States—and individual Americans—will be challenged to engage in unprecedented ways with the global community, collaboratively and competitively.

These waves of dislocating change will only intensify. The world in which today's students will make choices and compose lives is one of disruption rather than certainty, and of interdependence rather than insularity. This volatility also applies to careers. Studies show that Americans already change jobs ten times in the two decades after they turn eighteen, with such change even more frequent for younger workers.

Taking stock of these developments, educators and employers have begun to reach similar conclusions—an emerging consensus—about the kinds of learning Americans need from college. The recommendations in this report are informed by the views of employers, by new standards in a number of the professions, and by a multiyear dialogue with hundreds of colleges, community colleges, and universities about the aims and best practices for a twenty-first-century education.

# The Essential Learning Outcomes

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

Beginning in school, and continuing at successively higher levels across their college studies, students should prepare for twenty-first-century challenges by gaining:

#### Knowledge of Human Cultures and the Physical and Natural World

 Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts

Focused by engagement with big questions, both contemporary and enduring

#### Intellectual and Practical Skills, including

- · Inquiry and analysis
- · Critical and creative thinking
- · Written and oral communication
- · Quantitative literacy
- · Information literacy
- · Teamwork and problem solving

**Practiced extensively**, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance

#### \star Personal and Social Responsibility, including

- Civic knowledge and engagement—local and global
- · Intercultural knowledge and competence
- · Ethical reasoning and action
- · Foundations and skills for lifelong learning

Anchored through active involvement with diverse communities and real-world challenges

#### 🔻 Integrative and Applied Learning, including

· Synthesis and advanced accomplishment across general and specialized studies

**Demonstrated** through the application of knowledge, skills, and responsibilities to new settings and complex problems

**Note:** The Essential Learning Outcomes were identified through a multiyear dialogue with hundreds of colleges and universities about needed goals for student learning; analysis of a long series of recommendations and reports from the business community; and analysis of the accreditation requirements for engineering, business, nursing, and teacher education. The findings are documented in previous publications of the Association of American Colleges and Universities: *Greater Expectations: A New Vision for Learning as a Nation Goes to College* (2002), *Taking Responsibility for the Quality of the Baccalaureate Degree* (2004), and *Liberal Education Outcomes: A Preliminary Report on Achievement in College* (2005). *Liberal Education Outcomes* is available online at www.aacu.org/leap.

Across all these centers of dialogue, a new vision for learning is coming into view. The goal of this report is to move from off-camera analysis to public priorities and action.

#### What Matters in College?

American college students already know that they want a degree. The challenge is to help students become highly intentional about the forms of learning and accomplishment that the degree should represent.

The LEAP National Leadership Council calls on American society to give new priority to a set of educational outcomes that all students need from higher learning, outcomes that are closely calibrated with the challenges of a complex and volatile world.

Keyed to work, life, and citizenship, the essential learning outcomes recommended in this report (see p. 7) are important for all students and should be fostered and developed across the entire educational experience, and in the context of students' major fields. These outcomes provide a new framework to guide students' cumulative progress—as well as curricular alignment—from school through college.

The LEAP National Leadership Council does not call for a "one-size-fits-all" curriculum. The recommended learning outcomes can and should be achieved through many different programs of study and in all collegiate institutions, including colleges, community colleges and technical institutes, and universities, both public and private.

#### **Liberal Education and American Capability**

The essential learning outcomes are important for a globally engaged democracy, for a dynamic, innovation-fueled economy, and for the development of individual capability. A course of study that helps students develop these capacities is best described as a liberal—and liberating—education.

Reflecting the traditions of American higher education since the founding, the term "liberal education" headlines the kinds of learning needed for a free society and for the full development of human talent. Liberal education has always been this nation's signature educational tradition, and this report builds on its core values: expanding horizons, building understanding of the wider world, honing analytical and communication skills, and fostering responsibilities beyond self.

However, in a deliberate break with the academic categories developed in the twentieth century, the LEAP National Leadership Council disputes the idea that liberal education is achieved only through studies in arts and sciences disciplines. It also challenges the conventional view that liberal education is, by definition, "nonvocational."

The council defines liberal education for the twenty-first century as a comprehensive set of aims and outcomes (see previous page) that are essential for all students because they are important to all fields of

"In an economy that is dependent on innovation and global savvy, liberal education outcomes have become the keys to economic vitality and individual opportunity."

endeavor. Today, in an economy that is dependent on innovation and global savvy, these outcomes have become the keys to economic vitality and individual opportunity. They are the foundations for American success in all fields—from technology and the sciences to communications and the creative arts.

The LEAP National Leadership Council recommends, therefore, that the essential aims and outcomes be emphasized across every field of college study, whether the field is conventionally considered one of the arts and sciences disciplines or whether it is one of the professional and technical fields (business, engineering, education, health, the performing arts, etc.) in which the majority of college students currently major. General education plays a role, but it is not possible to squeeze all these important aims into the general education program alone. The majors must address them as well.

In the last century, higher education divided educational programs into two opposed categories—an elite curriculum emphasizing liberal arts education "for its own sake" and a more applied set of programs emphasizing preparation for work. Today, the practices are changing but the old ivory tower view of liberal education lingers. It is time to retire it.

This outmoded view is seriously out of touch with innovations on campus, which increasingly foster real-world experience and applications in all disciplines. But it is especially injurious to firstgeneration students who, the evidence shows, are the most likely to enroll in narrower programs that provide job training but do not emphasize the broader outcomes of a twenty-first-century education. To serve American society well, colleges, universities, and community colleges must take active steps to make liberal education inclusive.

The LEAP National Leadership Council calls, therefore, for vigorous new efforts to help students discover the connections between the essential learning outcomes and the lives they hope to lead. The goal—starting in school and continuing through college—should be to provide the most empowering forms of learning for all college students, not just some of them.

#### A New Framework for Excellence

The LEAP National Leadership Council recommends, in sum, an education that intentionally fosters, across multiple fields of study, wide-ranging knowledge of science, cultures, and society; high-level intellectual and practical skills; an active commitment to personal and social responsibility; and the demonstrated ability to apply learning to complex problems and challenges.

The council further calls on educators to help students become "intentional learners" who focus, across ascending levels of study and diverse academic programs, on achieving the essential learning outcomes. But to help students do this, educational communities will also have to become far more intentional themselves-both about the kinds of learning students need, and about effective educational practices that help students learn to integrate and apply their learning.

"It is not possible to squeeze all these important aims into the general education program alone. The majors must address them as well."

## The Principles of Excellence

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

#### Principle One

#### **★** Aim High—and Make Excellence Inclusive

Make the Essential Learning Outcomes a Framework for the Entire Educational Experience, Connecting School, College, Work, and Life

#### Principle Two

#### **★** Give Students a Compass

Focus Each Student's Plan of Study on Achieving the Essential Learning Outcomes—and Assess Progress

#### Principle Three

#### **★** Teach the Arts of Inquiry and Innovation

Immerse All Students in Analysis, Discovery, Problem Solving, and Communication, Beginning in School and Advancing in College

#### Principle Four

#### **★** Engage the Big Questions

Teach through the Curriculum to Far-Reaching Issues—Contemporary and Enduring—in Science and Society, Cultures and Values, Global Interdependence, the Changing Economy, and Human Dignity and Freedom

#### Principle Five

#### **★ Connect Knowledge with Choices and Action**

Prepare Students for Citizenship and Work through Engaged and Guided Learning on "Real-World" Problems

#### Principle Six

#### \* Foster Civic, Intercultural, and Ethical Learning

Emphasize Personal and Social Responsibility, in Every Field of Study

#### Principle Seven

### **★** Assess Students' Ability to Apply Learning to Complex Problems

Use Assessment to Deepen Learning and to Establish a Culture of Shared Purpose and Continuous Improvement



In a society as diverse as the United States, there can be no "onesize-fits-all" design for learning that serves all students and all areas of study. The diversity that characterizes American higher education remains a source of vitality and strength.

Yet all educational institutions and all fields of study also share in a common obligation to prepare their graduates as fully as possible for the real-world demands of work, citizenship, and life in a complex and fast-changing society. In this context, higher education needs a broadly defined educational framework that provides both a shared sense of the aims of education and strong emphasis on effective practices that help students achieve these aims.

To highlight these shared responsibilities, the council urges a new compact, between educators and American society, to adopt and achieve new Principles of Excellence (see p. 10).

Informed by a generation of innovation and by scholarly research on effective practices in teaching, learning, and curriculum, the Principles of Excellence offer both challenging standards and flexible guidance for an era of educational reform and renewal.

The Principles of Excellence can be applied by any college, community college, or university. They are intended to influence practice across the disciplines as well as in general education programs.

But the principles and the recommendations that accompany them also provide a framework for shared efforts, between school and college, to develop more purposeful pathways for student learning over time. Collectively, they shift the focus—at all levels of education—from course categories and titles to the quality and level of work students are actually expected to accomplish.

Taken together, the Principles of Excellence underscore the need to teach students how to integrate and apply their learning—across multiple levels of schooling and across disparate fields of study. The principles of excellence call for a far-reaching shift in the focus of schooling from accumulating course credits to building real-world capabilities.

#### A Time for Leadership and Action

The Principles of Excellence build from an era of innovation that is already well under way. As higher education has reached out to serve an ever wider and more diverse set of students, there has been widespread experimentation to develop more effective educational practices and to determine "what works" with today's college students.

Some of these innovations are so well established that research is already emerging about their effectiveness. The full LEAP report provides a guide to tested and effective educational practices.

To date, however, these active and engaged forms of learning have served only a fraction of students. New research suggests that the benefits are especially significant for students who start farther behind. But often, these students are not the ones actually participating in the high-impact practices.

With campus experimentation already well advanced—on every one of the Principles of Excellence—it is time to move from "pilot "The Principles of Excellence call for a farreaching shift in the focus of schooling from accumulating course credits to building real-world capabilities."

"Students need to hear now from their future employers that narrow learning will limit rather than expand their options." efforts" to more far-reaching commitments. The United States comprehensively transformed its designs for learning, at all levels, in the late nineteenth and early twentieth centuries. Now, as we enter the new global century, Americans need to mobilize again to advance a contemporary set of goals, guiding principles, and practices that will prepare all college students—not just the fortunate few—for twentyfirst-century realities.

#### What It Will Take

#### Make the Principles of Excellence a Priority on Campus

Colleges, community colleges, and universities stand at the center. Many have already implemented pilot programs that address the vision for learning outlined in this report. The goal now should be to move from partial efforts to a comprehensive focus on students' cumulative accomplishment over time, and across different parts of their educational experience.

The LEAP report describes steps that each institution can take to scale up its efforts and focus campuswide attention both on the aims of education and on intentional practice to help students achieve the intended learning.

#### ► Form Coalitions, across Sectors, for All Students' Long-Term Interests

While the value of strong educational leadership on campus cannot be overstated, raising the quality of student learning across the board will require concerted and collective action at all levels of education. The barriers to higher achievement are systemic, and no institution can overcome them on its own. Leaders at all levels will need to work together to build public and student understanding about what matters in college and to establish higher operative standards across the board for college readiness and college achievement.

#### Build Principled and Determined Leadership

While everyone has a role to play, three forms of enabling leadership will be absolutely essential to champion and advance the work of raising student achievement across the board.

- 1. High-profile advocacy from presidents, trustees, school leaders, and employers. These leaders, more than any others, are in a position to build public understanding of what matters in a twenty-firstcentury education. They should vigorously champion and support the essential learning outcomes with the public and in their outreach to students and families. And they should make the essential learning outcomes a driving priority for their institutions and communities.
- 2. Curricular leadership from knowledgeable scholars and teachers. While recognized leaders can make higher achievement a priority, faculty and teachers who work directly with students are the only ones who can make it actually happen. At all levels-nationally, regionally, and locally—they will need to take the lead in developing guidelines, curricula, and assignments that connect rich content with

students' progressive mastery of essential skills and capabilities. Equally important, those responsible for educating future teachers and future faculty must work to ensure that they are well prepared to help students achieve the intended learning.

3. Policy leadership at multiple levels to support and reward a new framework for educational excellence. Leaders in state systems and schools, in accreditation agencies, in P-16 initiatives, and in educational associations need to act together to set priorities and establish policies that focus on the essential learning outcomes. As they adopt new standards for assessment and accountability, they need to ensure that these standards are designed to foster cumulative accomplishment and integrative learning over time. And, they need to create an environment that both supports and rewards faculty, teacher, and staff investments in more powerful forms of learning.

#### Put Employers in Direct Dialogue with Students

Students are flocking to college in order to expand their career opportunities. They need to hear now from their future employers—at career fairs, on campus Web sites, and even through podcasts on their iPods—that narrow learning will limit rather than expand their options. When both senior executives and campus recruiters underscore the value of the essential learning outcomes, students will have strong incentives to work steadily toward their achievement.

#### Reclaim the Connections between Liberal Education and Democratic Freedom

The essential learning outcomes and the Principles of Excellence are important to the economy, certainly. But they are also important to American democracy.

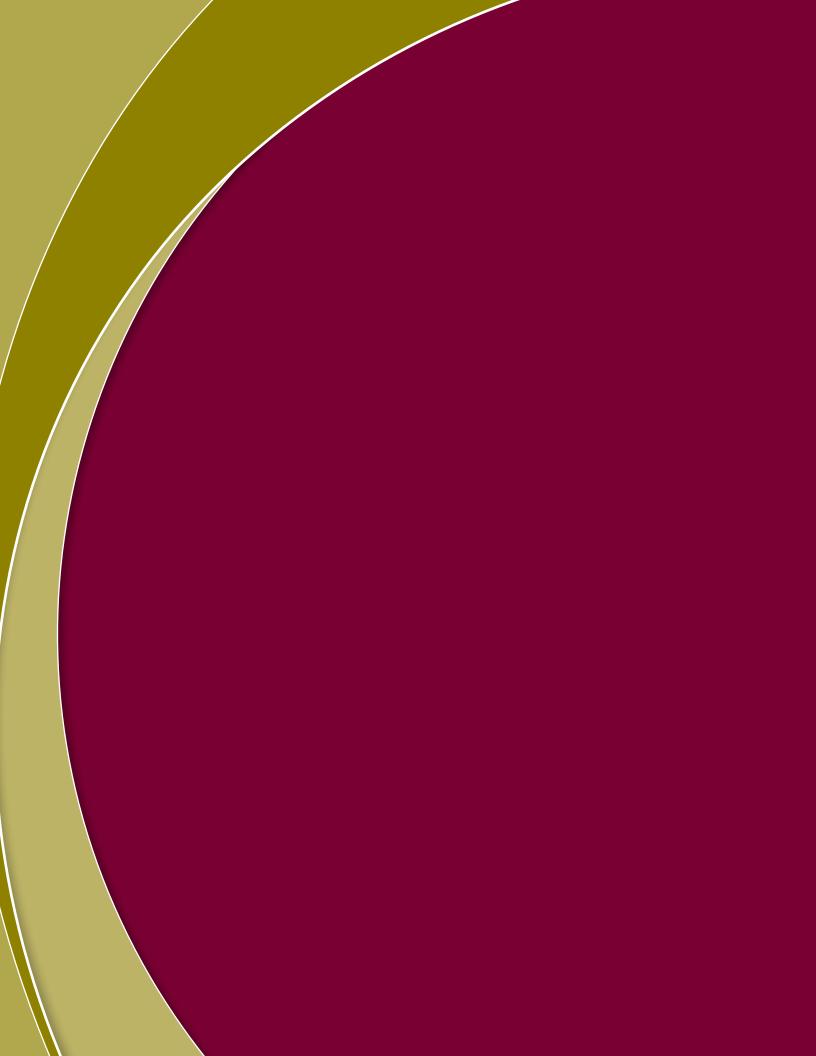
As Americans mobilize determined leadership for educational reform, we need to put the future of democracy at the center of our efforts. An educational program that is indifferent to democratic aspirations, principles, and values will ultimately deplete them. But a democracy united around a shared commitment to educate students for active citizenship will be this nation's best investment in our longterm future.

#### **Liberal Education and America's Promise**

With this report, the LEAP National Leadership Council urges a comprehensive commitment, not just to prepare all students for college, but to provide the most powerful forms of learning for all who enroll in college.

Working together, with determination, creativity, and a larger sense of purpose, Americans can fulfill the promise of a liberating college education—for every student and for America's future.

"The LEAP National Leadership Council urges a comprehensive commitment, not just to prepare all students for college, but to provide the most powerful forms of learning for all who enroll in college."



## High-ImpactEducational Practices



As early as 2002, AAC&U identified a set of educational practices that a growing body of research had shown were correlated with positive educational results for students (see p. 18).

In 2008, AAC&U commissioned NLC member George D. Kuh to summarize findings about these practices. His conclusions were published in High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter. Kuh's research suggests that participating in certain practices correlates with higher levels of student performance. He notes that these practices are powerful because they increase the frequency of meaningful interactions with faculty and peers, induce students to spend more time and effort on research, writing, and analytic thinking, and involve students in more hand-on and collaborative forms of learning.

Kuh examined, in particular, five practices on which significant data from the National Survey of Student Engagement were available. He found that each of these practices was correlated with student selfreported gains of various learning outcomes, with three clusters of learning and personal development outcomes, and with engagement in deep approaches to learning (see table 1).

TABLE 1		
Relationships between Selected High-Impact Activities	Deen Learning	and Salf-Reported Gains

	Deep Learning	Gains General	Gains Personal	Gains Practical	
	First-Year				
Learning Communities	+++	++	++	++	
Service Learning	+++	++	+++	++	
Senior					
Study Abroad	++	+	++		
Student-Faculty Research	+++	++	++	++	
Service Learning	++	+++	+++	++	
Senior Culminating Experience	++	++	+++	++	

+ p < .001, ++ p < .001 & Unstd B > .10, +++ p < .001 & Unstd B > .30

#### **Historically Underserved Students Benefit Even More from High-Impact Practices**

Kuh's research demonstrates that the practices he examined affect all students positively, but that historically underserved students seem to benefit even more than do some majority students when they engage in these practices. For example, all students who devote more effort to these high-impact practices earn higher grades in the first year of college. However, the effect of these practices on the grades of students of color is even more dramatic. A similar positive effect exists between engagement and the odds that a student will return to the same institution for the second year of college. Moreover, while engagement and persistence are positively correlated for all students, engagement has a compensatory effect for African American students relative to white students in that as the African American students become more engaged, they also become more likely to surpass white students in the likelihood they will persist.

#### Too Few Students Participate in High-Impact Practices and **Some Groups of Students Participate Much More than Others**

The effects of participating in high-impact practices are positive for all types of students. Unfortunately, too few students overall are participating in these practices. Moreover, some groups of historically underserved students are less likely to participate in high-impact activities—especially those first in their family to attend college and African American students (see table 2).

#### High-Impact Practices Have A Positive Impact on Learning AND **Completion**

In 2010, AAC&U published a new report called Five High-Impact Practices: Research on Learning Outcomes, Completion, and Quality that expands on the findings in Kuh's 2008 report. In this 2010 publication, researchers Jayne E. Brownell and Lynn E. Swaner provide an overview of many research studies. Having reviewed hundreds of research studies, they conclude that each of the five practices studied does lead to a set of positive outcomes for participants. Across the five practices, the most common outcomes include higher grades, higher persistence rates, intellectual gains, greater civic engagement, increased tolerance for and engagement with diversity, and increased interaction with faculty and peers.

**TABLE 2** Percent Participation in High-Impact Activities by Institutional and Student Characteristics

	First-Year St	udents	Senior Students				
	Learning Community	Service Learning	Research with Faculty	Study Abroad	Service Learning	Internship	Senior Experience
	Sector		•	•		•	,
Public	17	34	18	12	44	50	29
Private	16	44	22	21	53	61	42
	Barron's Sele	ctivity					
Less selective	16	36	16	10	47	48	30
More selective	18	37	23	21	45	59	35
	Ethnicity						
African American/ Black	18	40	17	9	51	45	27
Asian/Pacific Islander	17	37	22	14	49	50	28
Caucasian/ White	17	36	19	15	45	56	34
Hispanic	20	36	17	11	47	45	26
Other	15	38	19	18	46	46	31
	Enrollment						
Part-time	10	26	12	7	37	38	22
Full-time	17	37	21	16	48	56	35
	First-Generat	ion					
No	18	37	22	19	46	57	36
Yes	15	35	16	9	46	48	29
	Transfer						
Started here	17	37	23	19	49	61	38
Started elsewhere	13	32	14	9	43	43	25
Age							
Under 24 years	17	37	23	18	49	61	37
24 years & older	10	24	13	7	4,1	40	24
Overall Participation	17	36	19	14,	4.6	53	32

Adapted from High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter by George D. Kuh (Washington, DC: Association of American Colleges and Universities, 2008).

# A Guide to High-Impact Practices

#### First-Year Seminars and Experiences

Many schools now build into the curriculum first-year seminars or other programs that bring small groups of students together with faculty or staff on a regular basis. The highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies. First-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members' own research.

#### **Common Intellectual Experiences**

The older idea of a "core" curriculum has evolved into a variety of modern forms, such as a set of required common courses or a vertically organized general education program that includes advanced integrative studies and/or required participation in a learning community (see below). These programs often combine broad themes—e.g., technology and society, global interdependence—with a variety of curricular and cocurricular options for students.

#### **Learning Communities**

The key goals for learning communities are to encourage integration of learning across courses and to involve students with "big questions" that matter beyond the classroom. Students take two or more linked courses as a group and work closely with one another and with their professors. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some deliberately link liberal arts and professional courses; others feature service learning.

#### Writing-Intensive Courses

These courses emphasize writing at all levels of instruction and across the curriculum, including final-year projects. Students are encouraged to produce and revise various forms of writing for different audiences in different disciplines. The effectiveness of this repeated practice "across the curriculum" has led to parallel efforts in such areas as quantitative reasoning, oral communication, information literacy, and, on some campuses, ethical inquiry.

#### **Undergraduate Research**

Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students' early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

#### **Collaborative Assignments and Projects**

Collaborative learning combines two key goals: learning to work and solve problems in the company of others, and sharpening one's own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences. Approaches range from study groups within a course, to teambased assignments and writing, to cooperative projects and research.

#### **Diversity/Global Learning**

Many colleges and universities now emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address US diversity, world cultures, or both—often explore "difficult differences" such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Frequently, intercultural studies are augmented by experiential learning in the community and/or by study abroad.

#### Service Learning, Community-Based Learning

In these programs, field-based "experiential learning" with community partners is an instructional strategy—and often a required part of the course. The idea is to give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community. A key element in these programs is the opportunity students have to both apply what they are learning in real-world settings and reflect in a classroom setting on their service experiences. These programs model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life.

#### **Internships**

Internships are another increasingly common form of experiential learning. The idea is to provide students with direct experience in a work setting—usually related to their career interests—and to give them the benefit of supervision and coaching from professionals in the field. If the internship is taken for course credit, students complete a project or paper that is approved by a faculty member.

#### **Capstone Courses and Projects**

Whether they're called "senior capstones" or some other name, these culminating experiences require students nearing the end of their college years to create a project of some sort that integrates and applies what they've learned. The project might be a research paper, a performance, a portfolio of "best work," or an exhibit of artwork. Capstones are offered both in departmental programs and, increasingly, in general education as well.

Adapted from: High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter, by George D. Kuh (Washington, DC: Association of American Colleges and Universities, 2008).

## College and University Leaders on Learning Outcomes and Practices

In 2009, AAC&U released the findings of a national survey of chief academic officers at AAC&U member institutions.\* The survey revealed that nearly 80 percent of colleges and universities surveyed now have a broad set of learning outcomes for all students (see p. 20) and many of their lists of intended learning outcomes echo those advanced in the LEAP initiative and embraced by employers (see pp. 23–28).

Completed by chief academic officers at 433 colleges and universities of all sorts (public and private, two-year and four-year, large and small), the survey shows that college leaders are focused both on providing all students a broad set of learning outcomes and assessing students' achievement of these outcomes across the curriculum.

#### More Colleges and Universities Assess Learning Outcomes Across the Curriculum

More than seven in ten responding institutions (72 percent) now are assessing learning outcomes across the curriculum, and an additional one in four (24 percent) say they are planning for this assessment. Most colleges assess cumulative learning outcomes at the departmental level rather than in general education. Nonetheless, nearly half (48 percent) of institutions surveyed are assessing at both the departmental level and in general education. Fully 94 percent either are already assessing (52 percent), or plan to assess (42 percent), general education learning outcomes across multiple courses.

Colleges and universities are using a variety of approaches to assessing learning outcomes with 40 percent using rubrics applied to student work, 37 percent using capstone projects, and 35 percent using student surveys for assessment purposes. Relatively few are using standardized national tests of general knowledge (16 percent) with about a quarter (26 percent) using standardized national tests of general skills, such as critical thinking.

#### More Colleges and Universities Expand Use of High-Impact Educational Practices

A majority of campuses surveyed report placing more emphasis on eight of the high-impact educational practices described on pages 15–18. The top priorities for AAC&U member campuses are undergraduate research, first-year experiences, and study abroad. Campuses also are placing more emphasis on such practices as service learning, internships, diversity studies, and learning communities (see fig. 1). The research also shows that campuses need to spend much more time helping students understand the aims, outcomes, and importance of liberal education.

<sup>\*</sup>For full findings from the AAC&U member survey, see two reports: Trends and Emerging Practices in General Education (May 2009) and Learning and Assessment: Trends in Undergraduate Education (April 2009), both available at http://www.aacu.org/membership/membersurvey.cfm.

# AAC&U Member Institutions' $Learning\ Outcomes\ for\ All\ Students$

#### **★** Knowledge of Human Cultures and the Physical and Natural World

Humanities	92%
• Sciences	91%
Social Sciences	90%
Global/World Cultures	87%
Mathematics	87%
Diversity in the United States	73%
United States History	49%
Languages Other Than English	42%
Sustainability	24%

#### Intellectual and Practical Skills

Writing Skills	99%
Critical Thinking	95%
Quantitative Reasoning	91%
Oral Communication	88%
Intercultural Skills	79%*
Information Literacy	76%
Research Skills	65%

#### **★** Personal and Social Responsibility

Intercultural Skills	79%*
Ethical Reasoning	75%
Civic Engagement	68%

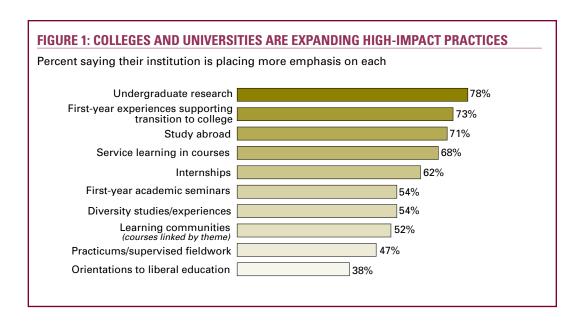
#### Integrative Learning

Application of Learning	66%
Integration of Learning	63%

Note: Nearly 80 percent of AAC&U member institutions surveyed reported that they had a common set of learning outcomes for all students. Percentages cited above are the percentage of those with campus-wide goals reporting that this outcome is one of the learning goals they have for all students. This data was generated as part of AAC&U's initiative, Liberal Education and America's Promise (LEAP). The four categories of learning outcomes correspond to a set of "Essential Learning Outcomes" developed as part of LEAP. See www.aacu. org/leap and Learning and Assessment: Trends in Undergraduate Education—A Survey Among Members of the Association of American Colleges and Universities (AAC&U and Hart Research Associates, 2009).

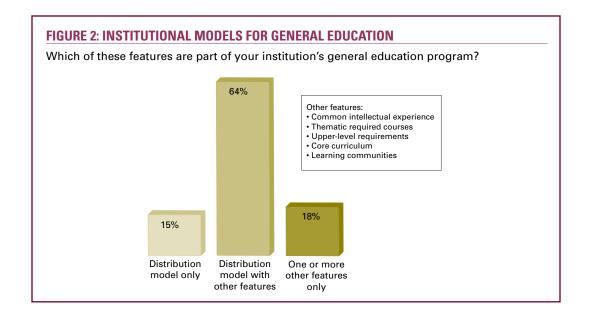


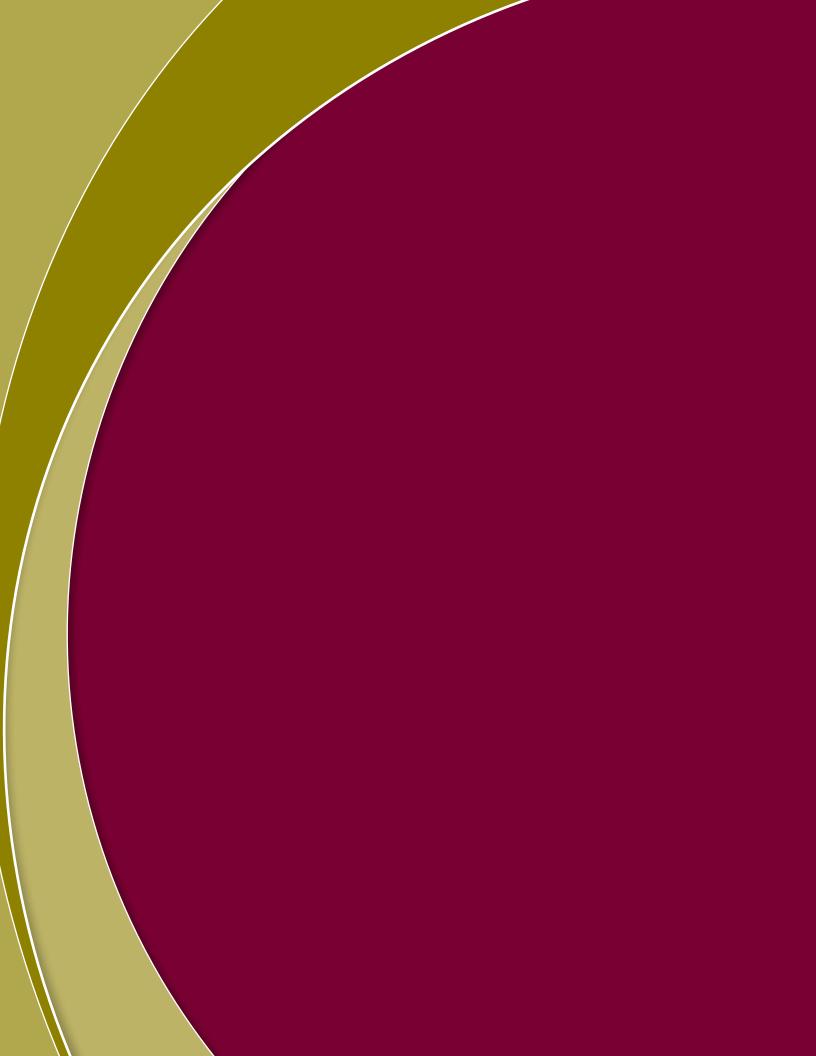
<sup>\*</sup> The starred items are shown in two learning outcome categories because they apply to both.



#### More Colleges and Universities Adopt Integrative Designs for General Education

Many colleges and universities also are in the process of assessing or modifying their general education programs with the goal of increasing student achievement of learning outcomes. Two-thirds of colleges and universities surveyed in 2009 report incorporating more integrative and engaged learning practices into general education programs.





# Employers Seek Essential Learning Outcomes and Endorse High-Impact Practices

From 2006 to 2009, AAC&U commissioned Hart Research Associates to conduct several studies of employers' views on student learning in college.\* Summarized below are selected

data and key conclusions from this research. These surveys and focus groups reveal strong support among employers for an increased emphasis on providing all students with the LEAP "essential learning outcomes." Employers reject any trend toward narrow technical training at the college level; they believe that, to

succeed in the global economy, students need more liberal education, not less (see p. 26).

Employers want college graduates to acquire versatile knowledge and skills. They also expressed a strong desire to see more emphasis on helping students put their knowledge and skills to practical use in "real-world" settings. This preference was reaffirmed when employers were asked how colleges can productively assess whether students have achieved the essential outcomes.

Employers in the 2008 LEAP survey dismissed multiple choice tests in favor of assessments that evaluate communication skills and analytic reasoning, and students' ability to apply what they are learning to complex problems. Employers surveyed in late 2009—after the current economic downturn began—also made clear that they are placing greater emphasis on hiring college graduates (as compared to hiring those with just high school degrees) and that their employees now need "higher levels of learning and knowledge" than they did in the past.

#### Employers Seek More College Graduates; Urge Improvement in College Preparation

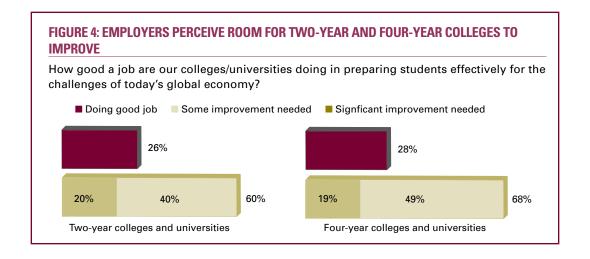
• Employers surveyed in 2009 indicate that their greatest increase in emphasis in the years ahead will be on hiring graduates from four-year colleges. Whereas 25 percent of employers say they will be placing less emphasis on hiring individuals with a high school degree and just 5 percent say they will be placing more emphasis, 28 percent say they will be placing more emphasis on hiring individuals with a four-year college degree and just 3 percent say they will be placing less emphasis.

<sup>\*</sup> Hart Research Associates conducted three national surveys of employers (in late 2006, late 2007, and late 2009) and three focus groups among business executives in 2007. In surveys of employers, they interviewed 305 employers whose companies have at least twenty-five employees and report that 25 percent or more of their new hires hold at least a bachelor's or associate's degree, from a two-year or four-year college. Complete findings from the national surveys can be found at http://www.aacu.org/leap.

• Ninety-one percent of employers say that, in 2009, they are "asking employees to take on more responsibilities and to use a broader set of skills than in the past." Ninety percent report expecting employees to "work harder to coordinate with other departments." Nearly ninety percent say that "the challenges employees face are more complex today than they were in the past."

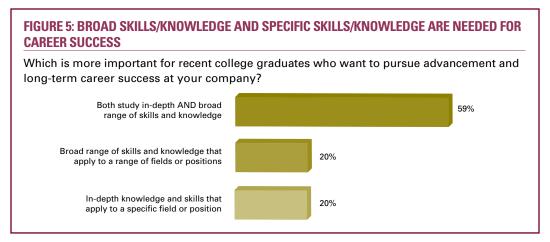


 The majority of employers perceive room for both two-year and four-year colleges to improve their programs to prepare students more effectively (see fig. 4). Only about one-quarter of those surveyed in 2009 believe that colleges are doing a good job of preparing students for today's challenges. One in five believe that significant improvements are needed in both two-year and four-year colleges' performance.



## Employers Seek Broad Knowledge and Skills, Urge More Emphasis on Cross-Cutting Outcomes and Real-World Applications

• Fifty-nine percent of employers think colleges and universities should focus on providing all students with both a well-rounded education—broad knowledge and skills that apply to a variety of fields—and knowledge and skills in a specific field. Twenty percent of employers favor a primary focus only on providing a well-rounded education, and another 20 percent favor providing skills and knowledge mainly in a specific field (see fig. 5).



- A majority of employers think that colleges and universities should place more emphasis on skills and areas of knowledge that are cultivated through a liberal education (see p. 26).
- Nearly 80 percent of those surveyed in 2009 thought that colleges and universities should also place more emphasis on helping students develop the ability to apply knowledge and skills to real-world settings through internships or other hands-on experiences. Several focus group participants were especially critical of colleges and universities for providing an education that is too theoretical and disconnected from the real world. Or as one executive says, colleges and universities equal "delayed reality."

#### **Employers Seek New Forms of Assessment and Endorse High-Impact Practices**

- Very few employers surveyed in 2007 found college transcripts useful in evaluating whether candidates have achieved the most important outcomes of college. Fewer than three in ten employers found college transcripts very (13 percent) or fairly (16 percent) useful.
- Employers seek assessments that demonstrate graduates' ability to apply their learning to real-world challenges. More than two-thirds of employers believe that a faculty supervisor's assessment of a student's internship or community-based project would be very or fairly useful to them in evaluating college graduates' potential for success. More than half of employers also would find it useful to see individual scores on essay tests of problem-solving, writing, and analytical thinking.
- Employers also would recommend to colleges that they invest scarce resources in qualitative assessment methods that demonstrate students' advanced ability to integrate and apply their learning.
- More than 80 percent of employers surveyed in 2009 believe that senior projects, internships
  and community-based research, and research projects developing students' evidence-based
  reasoning skills all would help prepare college students for success in today's workplace.

## Percentage of Employers Who Want Colleges to "Place More Emphasis" on Essential Learning Outcomes

#### **Knowledge of Human Cultures and the Physical and Natural World**

Science and technology	70%
Global issues	67%*
The role of the United States in the world	57%
Cultural diversity in the United States and other countries	57%
Civic knowledge, participation, and engagement	52%*

#### **Intellectual and Practical Skills**

Written and oral communication	89%
Critical thinking and analytic reasoning	81%
Complex problem solving	75%
• Teamwork skills in diverse groups	71%*
Creativity and innovation	70%
Information literacy	68%
Quantitative reasoning	63%

#### Personal and Social Responsibility

Ethical decision making	75%
• Intercultural competence (teamwork in diverse groups)	71%*
<ul> <li>Intercultural knowledge (global issues)</li> </ul>	67%*
Civic knowledge, participation, and engagement	52%*

#### **Integrative and Applied Learning**

· Applied knowledge in real-world settings 79%

Note: These findings are taken from Raising the Bar: Employers' Views on College Learning in the Wake of the Economic Downturn, a survey of employers conducted for AAC&U by Hart Research Associates and published in 2010. For a full report on this survey and related employer findings, see www.aacu.org/leap.



<sup>\*</sup>Starred items are shown in multiple learning outcome categories because they apply to more than one.

#### **Employers Endorse New Vision of Liberal Education**

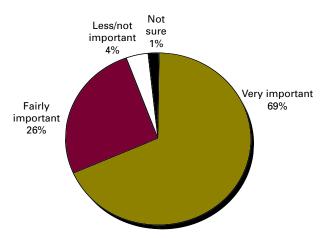
• Employers strongly endorse the practices that characterize liberal education. When presented with a description of liberal education and asked how important they feel it is for colleges and universities to provide an education meeting this description, employers overwhelmingly recognize it as very important (see fig. 6).

#### FIGURE 6: EMPLOYERS ENDORSE LIBERAL EDUCATION AS PREFERRED APPROACH

Employers were asked "How important is it for today's colleges and universities to provide the type of education described below?"

This particular approach to a four-year college education provides both broad knowledge in a variety of areas of study and more in-depth knowledge in a specific major or field of interest. It also helps students develop a sense of social responsibility, as well as intellectual and practical skills that span all areas of study, such as communication, analytical, and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings.

#### **Business Leaders**



In addition, 76 percent of employers would recommend this type of education to a young person they know.

Source: How Should Colleges Prepare Students To Succeed in Today's Global Economy? AAC&U/ Peter D. Hart Research Associates, 2007.

In sum, employers do not necessarily use the vocabulary of "liberal education." But when asked about the learning students need from college, they give responses that address all the broad areas of knowledge, skill, and responsibility that are central to a strong liberal education.

Campus leaders can use these survey findings to build public and student understanding that the learning outcomes that characterize liberal education have become essential, not elective. In an economy fueled by innovation, the outcomes of a liberal education have become the essential passport to economic opportunity. And as campus leaders consider strategies for assessing student cumulative learning, employers clearly recommend more integrated and applied learning assessments for all students.

The question confronting higher education is whether it can and will meet this challenging standard for inclusive excellence.

#### **How to Find LEAP Resources and Get Involved**

All publications, reports, updates from specific LEAP states initiatives, and information about upcoming events sponsored as part of the LEAP initiative are available online at www.aacu.org/leap.

#### **LEAP Campus Action Network**

The best way for individual AAC&U member campuses to get involved in LEAP is through the LEAP Campus Action Network (CAN). CAN member institutions are committed to advancing liberal education for all students, both on campus and in the community. Leaders from CAN institutions work together to communicate effectively about liberal education and to ensure that all students achieve key liberal education outcomes. LEAP CAN leaders have access to special workshops organized by AAC&U and receive all LEAP publications as soon as they are published. For more information on how to join, see: www.aacu.org/leap/can.

#### The LEAP States Initiative

The LEAP States Initiative brings AAC&U and member campuses into intentional work together toward systemic change. Through local campus, system-level, and public policy leadership, the LEAP States Initiative supports public advocacy and curricular renewal for liberal education. Working with state systems, commissions, or consortia of institutions, the initiative builds platforms for campus action and frameworks to advance essential learning outcomes in general education, in the disciplines, and across institutions and systems. Through targeted efforts, the initiative fosters cross-campus collaborations to raise levels of inclusion and success for all students. For more information, see: www.aacu.org/leap/states.

#### **LEAP Online and Print Resources**

LEAP publishes many reports and monographs on liberal education, assessment, essential learning outcomes, and ways to educate students and the public about liberal education. See a full listing of all LEAP publications at: www.aacu.org/leap/publications.

AAC&U also publishes a blog on liberal education with postings from AAC&U staff and experts in the field. See: blog.aacu.org.

The LEAP website also includes links to articles and speeches through which people from many backgrounds are effectively making the case for liberal education. See: www.aacu.org/leap/speeches\_articles.

Through LEAP, AAC&U has also developed data presented on PowerPoint slides through which educational practitioners and leaders can more effectively make the case for the economic and civic value of liberal education and essential learning outcomes. See: www.aacu.org/leap/presidentstrust/index.

#### For Further Information about AAC&U membership and/or LEAP, contact:

- LEAP Coordinating Director: Bethany Zecher Sutton (sutton@aacu.org)
- Vice President and Director of LEAP Advocacy and Public Outreach: Debra Humphreys (humphreys@aacu.org)
- Director of the LEAP Campus Action Network: Nancy O'Neill (oneill@aacu.org)
- Vice President and Director of the LEAP States Initiative: Susan Albertine (albertine@aacu.org)
- AAC&U Membership Director: Dennis Renner (renner@aacu.org)



1818 R Street, NW Washington, DC 20009 202.387.3760

AAC&U is the leading national association concerned with the quality, vitality, and public standing of undergraduate liberal education. Its members are committed to extending the advantages of a liberal education to all students, regardless of academic specialization or intended career. Founded in 1915, AAC&U now comprises more than 1,200 member institutions—including accredited public and private colleges and universities of every type and size.

AAC&U functions as a catalyst and facilitator, forging links among presidents, administrators, and faculty members who are engaged in institutional and curricular planning. Its mission is to reinforce the collective commitment to liberal education at both the national and local levels and to help individual institutions keep the quality of student learning at the core of their work as they evolve to meet new economic and social challenges.

Information about AAC&U membership, programs, and publications can be found at www.aacu.org.



LEAP