Eliciting—and Assessing—Our Students' Best Work

University of Michigan
Provost's Seminar on Teaching
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Association of American Colleges and Universities

LEAP AT A GLANCE
(2005-2015)

GOALS

- Spark public debate about the essential learning outcomes all students need
- Challenge the belief that students must choose **either** a liberal education **or** a practical education by advancing designs for college learning that blend broad **and** applied learning
- Highlight and counter current practices that steer some students to narrow educational tracks while the most advantaged students reap the full benefits of a broad liberal education
- Help **all** college and college-bound students understand, prepare for, and achieve essential learning outcomes
- Document national and state progress in student achievement of student learning outcomes

AREAS OF WORK

Campus Action

- LEAP Campus Action Network and workshops (200 two and four year institutions)
- LEAP initiatives in Partner States – Wisconsin, Virginia, Oregon, Utah, CSU System
- Summer institutes for campus teams working on outcomes in general education, departmental majors, assessment and institutional change to make excellence inclusive,
- Campus-based change efforts in AAC&U and affiliated projects on specific LEAP goals
- Partnerships with disciplinary societies

Public Advocacy

- LEAP National Leadership Council – speaking/writing/influencing/endorsing
- Presidents' Trust – connecting college learning with public priorities – economic and civic
- Key leaders and employers in partner states – advocacy and support
- Regents and trustees (engaged through the Presidents' Trust)
- Public opinion research – employers; recent graduates; students

Authentic Evidence

- LEAP VALUE project – new resources for deepening, documenting and reporting learning
- Partnerships with university research centers to document student progress in achieving essential learning outcomes and the spread of high impact practices that support achievement
- Reports—prepared in concert with research agencies—on students' achievement of essential learning outcomes and their participation in high impact forms of learning

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*

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

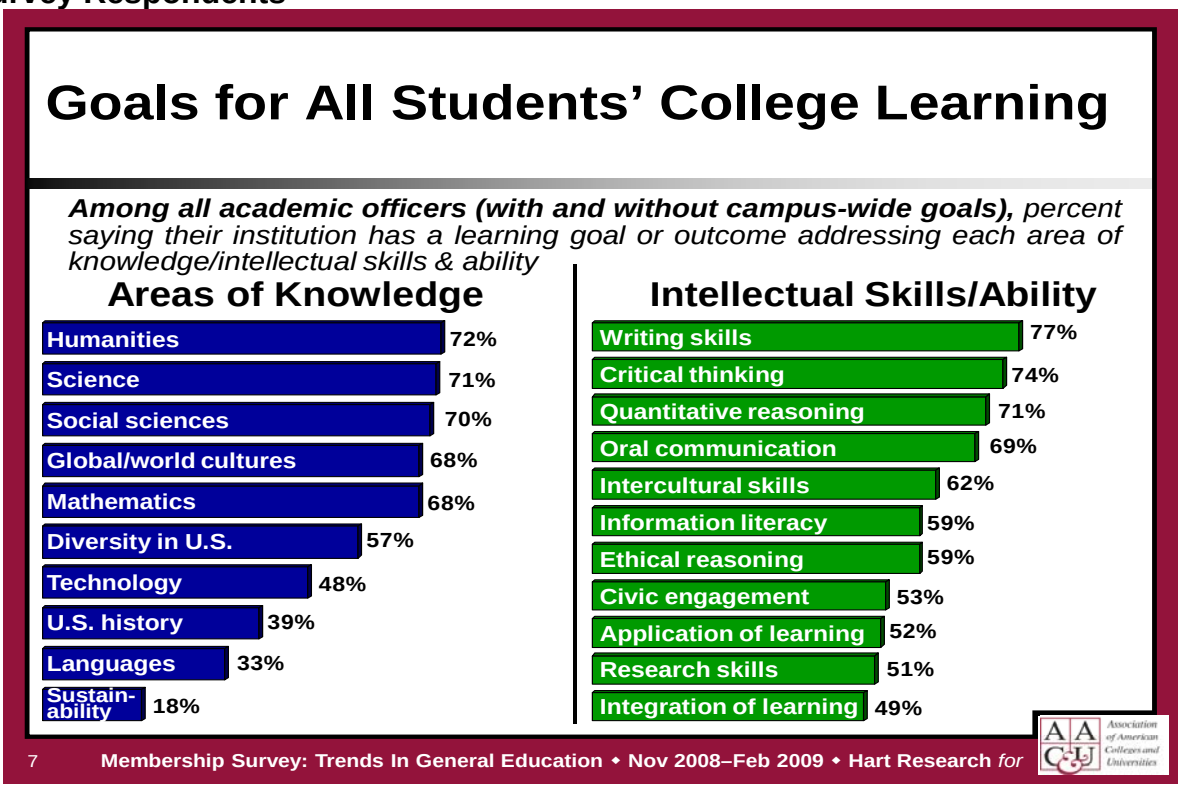
- Synthesis and advanced accomplishment across general and specialized studies

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

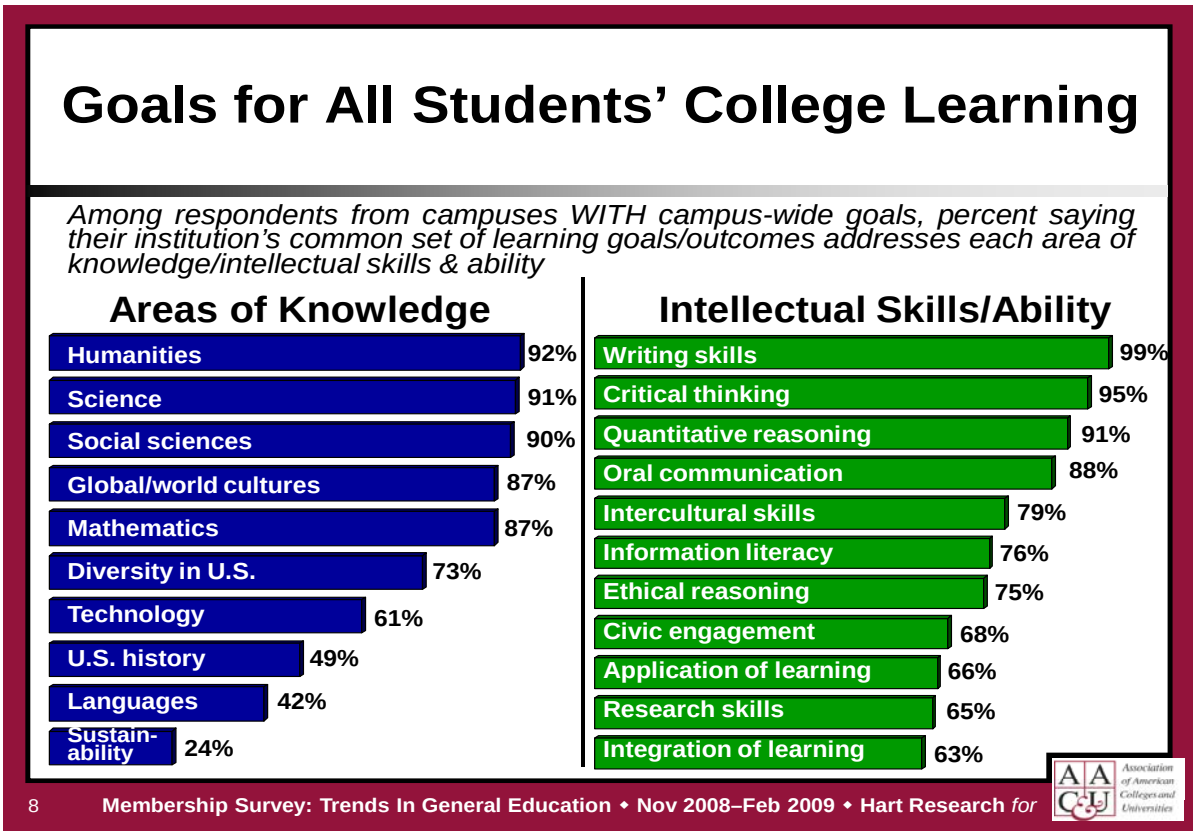
Note: This listing was developed through a multiyear dialogue with hundreds of colleges and universities about needed goals for student learning; analysis of a long series of recommendations and reports from the business community; and analysis of the accreditation requirements for engineering, business, 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.

2009 Survey of Chief Academic Officers at AAC&U Member Institutions (www.aacu.org/membership/membersurvey)

All Survey Respondents



78% That Have Goals



Comparing the AAC&U LEAP Outcomes with the American Society for Biochemistry and Molecular Biology (ASBMB) Learning Outcomes

LEAP	ASBMB
Knowledge of Human Culture and the Physical and Natural World	
• Study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts	• Understanding of the fundamentals of chemistry and biology and the key principles of biochemistry and molecular biology
Intellectual and Practical Skills	
• Inquiry and analysis • Critical and creative thinking • Written and oral communication • Quantitative literacy • Information literacy • Teamwork and problem solving	• Ability to assess primary papers critically • Good quantitative skills • Ability to design experiments and understand the limitations of the experimental approach • Ability to interpret experimental data • Ability to design follow-up experiments • Ability to work safely and effectively in a laboratory • Awareness of the available resources and how to use them • Ability to use computers as information and research tools • Ability to collaborate with other researchers • Ability to use oral, written, and visual presentations to present their work to both a science-literate and a science-non-literate audience
Personal and Social Responsibility	
• Civic knowledge and engagement - local and global • Intercultural knowledge and competence • Ethical reasoning and action • Foundations and skills for lifelong learning	• Awareness of the major issues at the forefront of the discipline • Awareness of the ethical issues in the molecular life sciences
Integrative Learning	
• Synthesis and advanced accomplishment across general and specialized fields	• Ability to dissect a problem into its key features • Ability to think in an integrated manner and look at problems from different perspectives

From Biochemistry/Molecular Biology and Liberal Education: A Report to the Teagle Foundation (American Society for Biochemistry and Molecular Biology, 2008)

High Impact Practices

These widely tested teaching and learning innovations show substantial benefits, especially for college students from historically underserved backgrounds. But these practices remain optional rather than expected on most campuses.

First-Year Seminars and Experiences
Many schools now build first-year seminars or programs into the curriculum. These experiences regularly bring small groups of students together with faculty or staff . First-year experiences typically emphasize skills such as critical inquiry, frequent writing, information literacy, and collaborative learning that develop intellectual and practical competencies. First-year seminars can involve students with cutting-edge questions in scholarship and with the research of faculty members.

Common Intellectual Experiences
The older idea of a "core" curriculum has evolved into modern forms—a small set of required common courses, for example, 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—technology and society, or global interdependence, for example—with an array of curricular and co-curricular options.

Learning Communities
Learning communities aim to encourage integration of learning across courses and to involve students with "big questions" that matter beyond the classroom. Students work closely with one another and with their professors in two or more linked courses. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some learning communities deliberately link "liberal arts" and "professional courses;" others feature service learning (see below).

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

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 students with different backgrounds and life experiences. Approaches range from forming study groups within a course, to team-based assignments and writing, to cooperative projects and research.

"Science as Science Is Done"/Undergraduate Research
Scientists are reshaping their courses to connect key concepts and questions with early and active student involvement in systematic investigation and research. The goal, strongly supported by the National Science Foundation and the research community, is to involve students with contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from addressing important topics. These reforms are part of a broader movement to provide research experiences for students in all disciplines.

Diversity/Global Learning
Many colleges and universities emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address U.S. diversity, world cultures, or both—often examine "difficult differences" such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Experiential learning in the community and/or study abroad frequently augment intercultural studies.

Service Learning, Community-Based Learning
These programs use field-based "experiential learning" with community partners as an instructional strategy, and often as a required part of the course. The goal: give students direct experience with issues they study in the formal curriculum and with efforts to analyze and solve problems in the community. The programs teach 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, another common form of experiential learning, provide students with direct workplace experience—usually related to their career interests—and with supervision and coaching from professionals in the field. Students complete a project or paper that is approved by a faculty member if the internship is taken for "course credit."

Capstone Courses and Projects
These culminating experiences, sometimes called "senior capstones," require students to create a project—a research paper, a performance, a portfolio of "best work," or an artwork exhibit—that integrates and applies what they've learned. Capstones are offered in departmental programs and, increasingly, in general education as well.

For more information, read: George Kuh, *High Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter?* (AAC&U, 2008)

Table 3

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

	First-Year Students		*Senior Students*				
	Learning Community	Service Learning	Research with Faculty	Study Abroad	Service Learning	Internship	Senior Experience
	2005 Basic Carnegie						
Doc RU-VH	20	33	23	18	40	57	29
Doc RU-H	18	37	19	14	44	51	33
Doc DRU	18	39	17	13	52	51	33
Masters-L	16	35	16	10	47	48	30
Masters-M	16	39	17	11	51	52	30
Masters-S	14	44	18	14	53	51	36
Bac-AS	13	43	29	33	53	66	55
Bac-Diverse	13	41	18	11	55	60	37
Other	13	29	15	8	38	49	29
	Sector						
Public	17	34	18	12	44	50	29
Private	16	44	22	21	53	61	42
	Barron's Selectivity						
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-Generation						
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	41	40	24
Overall Participation	**17**	**36**	**19**	**14**	**46**	**53**	**32**

From Kuh, High Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter (AAC&U, 2009)

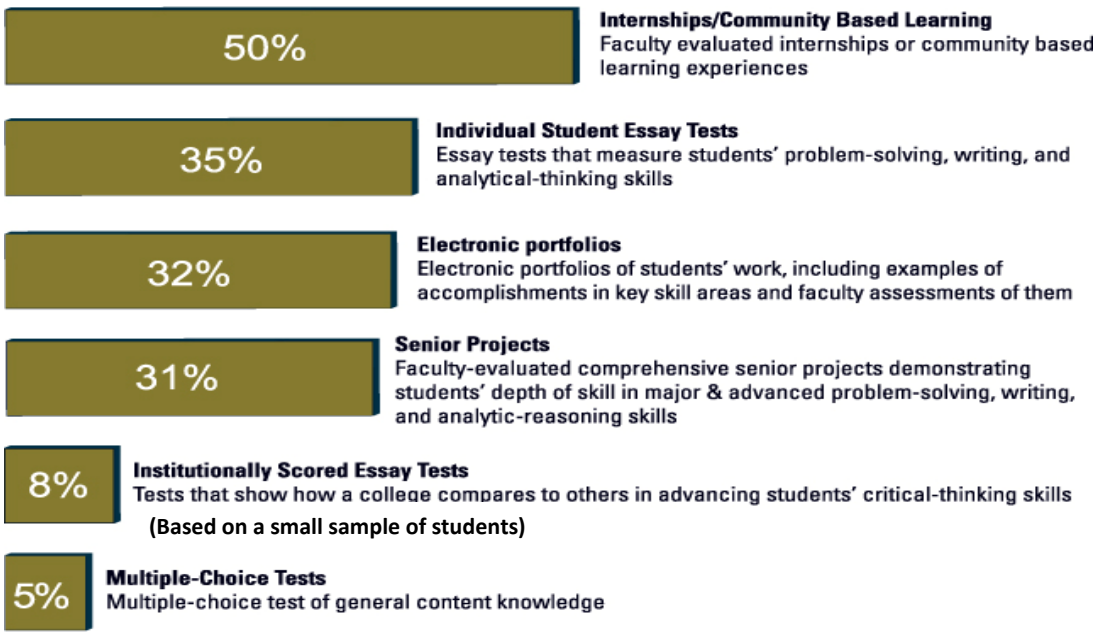
2008 Employer Survey Findings[1]

Employers Grade Student Learning in College

	Very well prepared (8-10 ratings)*	Not well prepared (1-5 ratings)*	Mean Rating*
Global knowledge	18%	46%	5.7
Self-direction	23%	42%	5.9
Writing	26%	37%	6.1
Critical thinking	22%	31%	6.3
Adaptability	24%	30%	6.3
Self-knowledge	28%	26%	6.5
Oral communication	30%	23%	6.6
Quantitative reasoning	32%	23%	6.7
Social responsibility	35%	21%	6.7
Intercultural Skills	38%	19%	6.9
Ethical Judgement	38%	19%	6.9
Teamwork	39%	17%	7.0

* ratings on 10-point scale: 10 = recent college graduates are extremely well prepared on each quality to succeed in entry level positions or be promoted/advance within the company

Employers Advise on Where to Focus Assessment Resources



[1] Note: these findings are taken from a survey of employers commissioned by the Association of American Colleges and Universities and conducted by Peter A. Hart Associates in November and December 2007. For a full report on the survey and its complete findings, see www.aacu.org/leap.