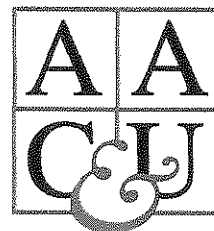


Liberal Education and Students' Success

Council of Colleges of Arts & Sciences Annual Meeting
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Portland, Oregon

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President
Association of American Colleges & Universities



*Association
of American
Colleges and
Universities*

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 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 Quality of the Baccalaureate Degree* (2004), and *Liberal Education Outcomes: A Preliminary Report on Achievement in College* (2005).

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	82%
• Global issues	72%*
• The role of the United States in the world	60%
• Cultural values and traditions (U.S./global)	53%*

★ Intellectual and Practical Skills

• Teamwork skills in diverse groups	76%*
• Critical thinking and analytic reasoning	73%
• Written and oral communication	73%
• Information literacy	70%
• Creativity and innovation	70%
• Complex problem solving	64%
• Quantitative reasoning	60%

★ Personal and Social Responsibility

• Intercultural competence (teamwork in diverse groups)	76%*
• Intercultural knowledge (global issues)	72%*
• Ethics and values	56%
• Cultural values/traditions—U.S./global	53%*

★ Integrative Learning

• Applied knowledge in real-world settings	73%
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Note: These findings are taken from a survey of employers commissioned by the Association of American Colleges and Universities and conducted by Peter D. Hart Associates in November and December 2006. For a full report on the survey and its complete findings, see www.aacu.org/leap.

*Three starred items are shown in two learning outcome categories because they apply to both.

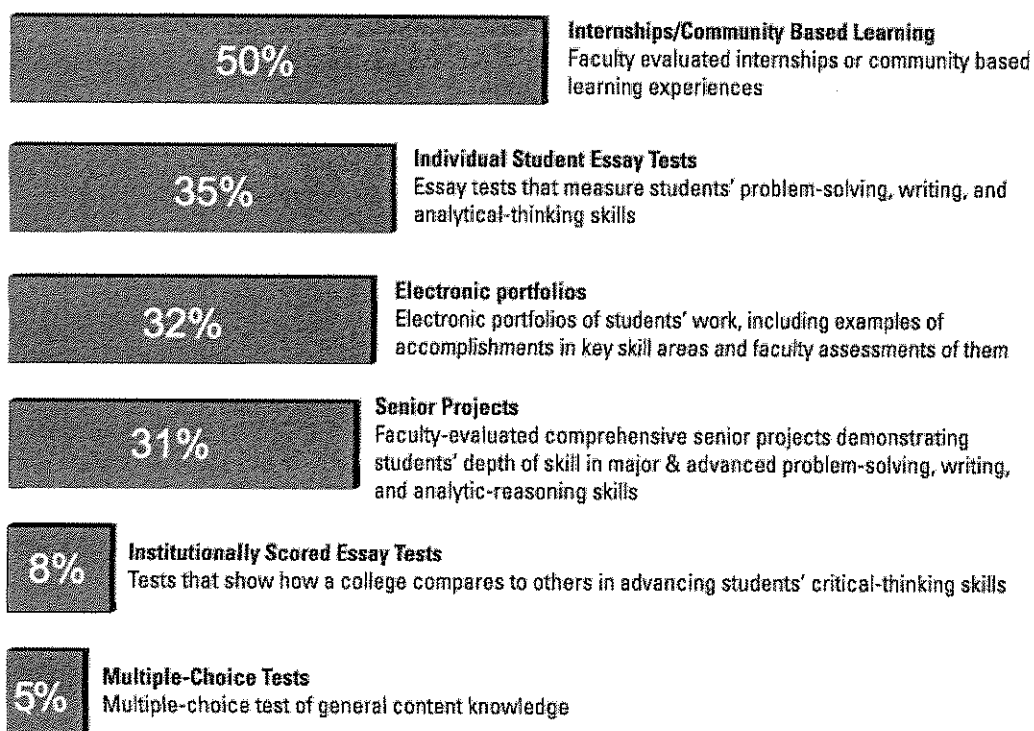
2008 Employer Survey Findings¹

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

* 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.

Table 1. 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	
<ul style="list-style-type: none"> • Study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts 	<ul style="list-style-type: none"> • Understanding of the fundamentals of chemistry and biology and the key principles of biochemistry and molecular biology
Intellectual and Practical Skills	
<ul style="list-style-type: none"> • Inquiry and analysis • Critical and creative thinking • Written and oral communication • Quantitative literacy • Information literacy • Teamwork and problem solving 	<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • Civic knowledge and engagement-local and global • Intercultural knowledge and competence • Ethical reasoning and action • Foundations and skills for lifelong learning 	<ul style="list-style-type: none"> • Awareness of the major issues at the forefront of the discipline • Awareness of the ethical issues in the molecular life sciences
Integrative Learning	
<ul style="list-style-type: none"> • Synthesis and advanced accomplishment across general and specialized fields 	<ul style="list-style-type: none"> • 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)

Questions for Departments to Ask

Have Departments Set Clear Goals and Appropriate Standards for:

1. **Knowledge: Students' Content Knowledge in the Field**

Are there key concepts, texts, developments, etc that all students are expected to know? Where are these taught?

Is there an expected level of mastery for specific areas of knowledge?

2. **Intellectual/Practical Skills: Students' Ability to Use the Field's Methods in Research and/or Creative Work**

Where are the field's research/creative/inquiry practices taught? Do assignments in intermediate and advanced courses effectively develop students' competence in using these essential skills?

Is preparation for research or creative projects mapped into the curriculum? Do all students gain these capabilities? At what level?

Do assignments and projects in advanced courses reliably require advanced skills and levels of work? Are students meeting expectations?

Can students effectively present their work in writing? Orally? Visually? Can they work successfully in diverse teams?

3. **Personal and Social Responsibility: Students' Development of Values, Commitments and Perspectives Essential to Their Work**

Have students applied these responsibilities to their own work and intended roles? To their civic lives?

Are ethical and values issues raised and explored? Or only implicit? Can students provide reasons for their ethical and values choices? Do they consider alternatives in developing their own views?

Are the field's responsibilities to society raised and explored?

Are students expected to engage diverse perspectives in forming their own views? How well can they do this?

Are global/cross-cultural issues raised and explored? Can students place their work in larger cultural and societal contexts? Can they work in intercultural groups and settings?

4. **Integrative and Applied Learning: Students' Ability to Apply Learning to Complex Problems and New Settings**

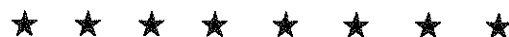
Are students expected to do research and/or creative work as an outcome of the program? How well were they prepared?

Is some form of community-based learning expected for all students? Is this learning evaluated? Can students adapt their learning to new settings?

Do students work on "big questions" at an advanced level? How well do they deploy cross-disciplinary perspectives in such work?

Is culminating work assessed for evidence on the institution's own version of the "essential learning outcomes?"

Liberal Education & America's Promise



Excellence for Everyone as a Nation Goes to College

LEAP at a Glance (2005-2015)

GOALS

- Spark public debate about the essential learning outcomes all students need (see page 3)
- Challenge the belief that students must choose **either** a liberal education **or** a practical education
- Document national and state progress in student achievement of student learning outcomes
- 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 the essential outcomes of a twenty-first-century liberal education

AREAS OF WORK

Campus Action

Campus Action Network and workshops (Open to all AAC&U Members)
Summer institutes for campus teams working on outcomes in general education reform, assessment, institutional change, making excellence inclusive, etc.*
Initiatives in Partner States – Oregon, Wisconsin, Virginia, CSU System
e.g., *Give Students a Compass/Make Excellence Inclusive*
Campus-based activities in related AAC&U projects
e.g., *Core Commitments; The Educated Citizen and Public Health; Shared Futures*
Partnerships with disciplinary societies

Public Advocacy

National Leadership Council – speaking/writing/influencing/informing
Key leaders and employers in partner states – advocacy and support
Public opinion research – employers; recent graduates; students
Presidents' Trust (now being formed)
Regents and trustees (will occur through Presidents' Trust)

Authentic Evidence

Recommended e-portfolio rubrics – tied to the essential learning outcomes (now being tested against samples of student work on campuses through the VALUE Project)
Partnerships with university research centers on essential learning outcomes and on high impact practices that support achievement
New Leadership Alliance on Accountability for Student Learning (under discussion with other organizations and funders; will focus on using outcomes and evidence to raise achievement)

*A new summer institute for department chairs and faculty will address outcomes and assessment – to begin in summer 2009 pending grant award in November of this year. Visit www.aacu.org for announcements on this and other LEAP developments.