

# **General Education and Integrative Learning:** Fulfilling the Promise of a 21<sup>st</sup> Century College Education

University of Missouri-Kansas City  
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Carol Geary Schneider  
Association of American Colleges and Universities



# ***CHANGING EDUCATIONAL PRACTICES***

<b><i>Established</i></b>	<b><i>Modified</i></b>	<b><i>Emerging</i></b>
focuses on teaching	in recognition that what is taught is not always what is learned	<b>ALSO</b> focuses on learning
emphasizes what an educated person should know	in recognition of the explosion of available information	<b>ALSO</b> emphasizes how to find and evaluate needed information and what students can do with their knowledge
sees the curriculum predominantly as a conveyor of well-established knowledge	in recognition of the world's complexity	<b>ALSO</b> interprets education as an informed probing of questions, values choices
assumes a relatively homogeneous group of students	given diversity as a social reality	engages diversity as a resource for learning
emphasizes study in a discipline	in recognition of the multi-disciplinary approach needed to understand real world problems	<b>ALSO</b> seeks connections within and across disciplines
emphasizes individual work	given the need to work as members of teams in the workplace and in community life	<b>ALSO</b> values collaborative work, particularly in diverse groups
stresses critical thinking	given the need for civic engagement in major policy decisions	<b>ALSO</b> links critical thinking to real-life problems, often involving contested values
promotes objective analysis and scholarly research	in recognition of the need to shape the rapid pace of change	<b>ALSO</b> develops creativity by valuing innovation and active problem-solving
studies majority Western cultures, perspectives, and issues	to respond to the plurality of the modern world, worldwide problems, and interdependence	<b>ALSO</b> examines and engages with a range of cultures, cultural complexity, and global issues
values learning for learning's sake	to acknowledge the new role of higher education in U.S. society	<b>ALSO</b> celebrates practical knowledge
considers higher education in isolation from primary and secondary education	given the need to build an aligned system to reach greater expectations	sees college learning as a part of a continuum with, and dependent on, the K-12 learning environment

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

# ***CHANGING FRAMEWORKS FOR KNOWLEDGE & KNOWING***

<b>Unity</b>	<b>↔</b>	<b>Multiplicity</b>
<b>Western</b>	<b>↔</b>	<b>Plural/Global</b>
<b>Universalizing</b>	<b>↔</b>	<b>Situated</b>
<b>Discovered</b>	<b>↔</b>	<b>Constructed</b>
<b>Area-based</b>	<b>↔</b>	<b>Intercultural</b>
<b>Detached</b>	<b>↔</b>	<b>Relational</b>
<b>Abstract</b>	<b>↔</b>	<b>Experiential</b>
<b>Value-neutral</b>	<b>↔</b>	<b>Values inquiry</b>
<b>Individual</b>	<b>↔</b>	<b>Collaborative</b>
<b>Analytical</b>	<b>↔</b>	<b>Applied/Civic</b>

# 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:

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## ★ 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*

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## ★ 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*

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## ★ 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*

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## ★ 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](http://www.aacu.org/leap).



# 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%*

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## ★ 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%

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## ★ 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%*

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## ★ Integrative and Applied Learning

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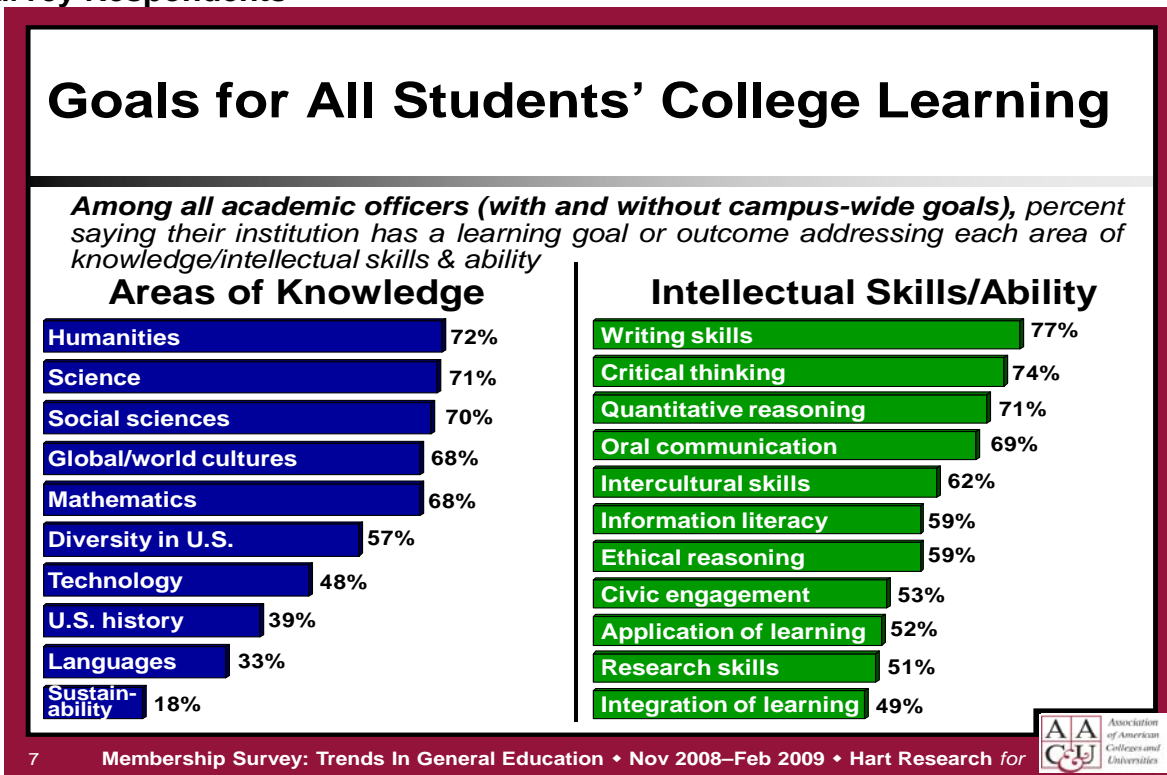
**Note:** These findings are taken from a survey of employers commissioned by the Association of American Colleges and Universities and conducted by Peter D. Hart Associates in November and December 2006. For a full report on the survey and its complete findings, see [www.aacu.org/leap](http://www.aacu.org/leap).

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

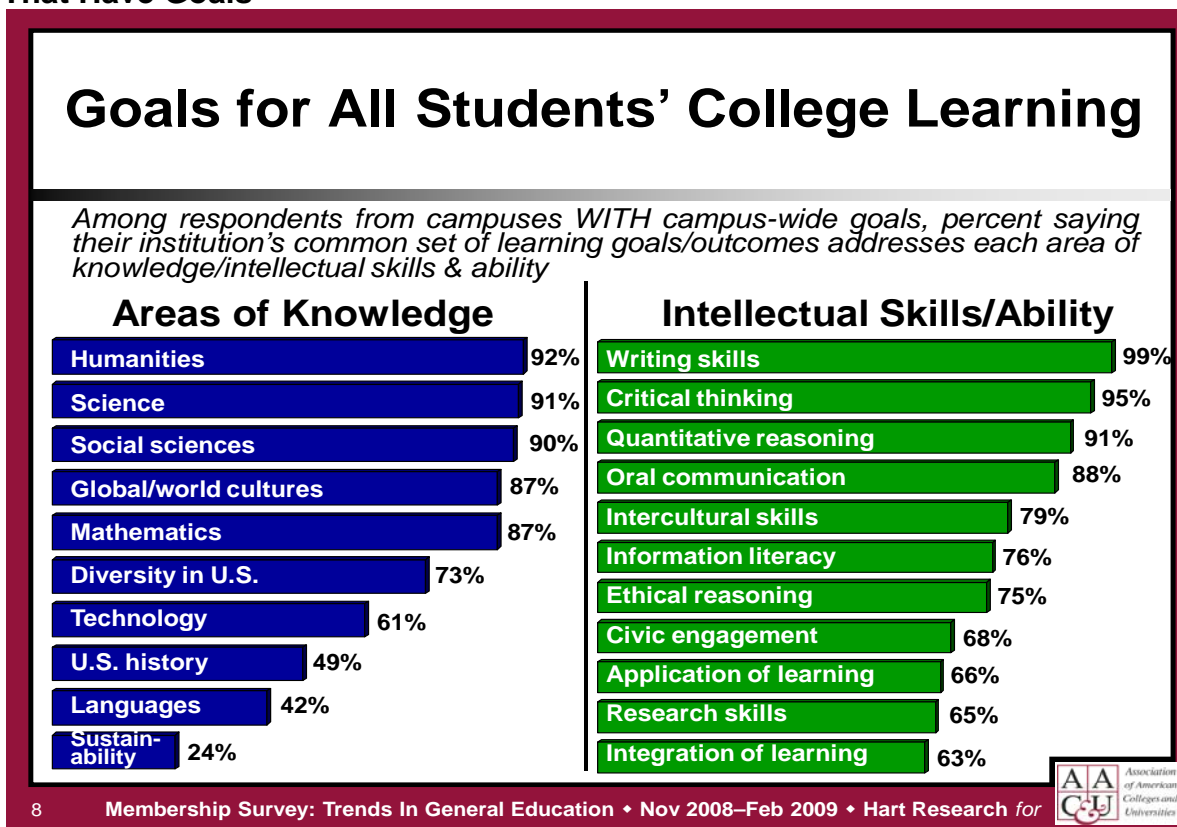


# 2009 Survey of Chief Academic Officers at AAC&U Member Institutions (www.aacu.org/membership/membersurvey)

## All Survey Respondents



## 78% That Have Goals



# High Impact Practices

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➔ *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)

# FOSTERING ESSENTIAL LEARNING OUTCOMES – *ACROSS THE CURRICULUM AND CO-CURRICULUM*

First Year Experience

Focused Studies  
Major/Minor(s)

Advanced Integrative and Culminating  
Work—in General and Specialized Studies

## **Analytic, Contextual and Holistic Thinking**

e.g. argument;  
quantitative reasoning;  
diverse viewpoints;  
problem-solving;  
research, etc.

## **Effective Communication Using Multiple Literacies and Forms of Expression**

e.g., writing, speaking;  
multi-media;  
technologies;  
cross-cultural dialogue,  
etc.

## **Critical Reflection/ Informed Action as Citizens, Producers, Human Beings**

e.g., analyze social, civic and  
equity issues;  
one's own role;  
role of competing values;  
cross-cultural and  
historical perspectives,  
etc.

## **Ethical Action for Local and Global Communities**

e.g., one's own values and  
bases for choice;  
values questions in  
chosen field;  
group decision making;  
role of civic values in  
diverse democracy;

## **Integrative Learning**

e.g., connections across  
courses and disciplines;  
connections between  
liberal arts  
and professional fields;  
experiential and academic  
learning;  
advanced integrative  
projects and culminating  
work.

# LEAP DESIGN PRINCIPLES FOR GENERAL EDUCATION AND INTEGRATIVE LIBERAL LEARNING

A) **Learning Outcomes:** Learning outcomes work to guide curriculum as well as pedagogical and assessment decisions. Students have multiple opportunities to explore both the “what” and the “why” of the program’s aims and intended outcomes.

B) **Sequential Progression from First to Final Undergraduate Years:** Sometimes referred to as “vertical design,” this design principle implements a first to final year structure—keyed to expected student capabilities rather than specified course content—with integrative and applied work at milestone and culminating points across the curriculum, and flexible points of entry for transfer students.

C) **Engaged Learning Practices:** Widely tested engaged learning practices that have proven benefits for college students are woven into the curriculum (examples include first year seminars/experiences, learning communities, writing intensive courses, collaborative projects and assignments, undergraduate research, internships, and capstone projects).

D) **Intellectual and Practical Skills in General Education and Majors:** Starting when students enter the program, the program builds clear links between skills (such as analytical reasoning, inquiry and research, quantitative and information literacy, problem-solving, community-based learning, integrative learning) developed in general education and those developed in majors.

E) **Civics, Diversity, & Global Emphases in General Education and Majors:** General education addresses these issues thematically and developmentally across the four years of college, with a strong focus on democracy and its contested applications; global interdependence and American pluralism; ethical issues and social responsibility; there are complementary emphases appropriate to the field within majors; and multiple opportunities for students to advance their learning and to engage diverse perspectives in field-based settings;

F) **Science as Science Is Done:** Students experience science “in the making” through strong emphasis on scientific inquiry and analysis in general courses; they also have opportunities to tie their science studies to global challenges, ethical questions and public policy choices—with appropriate attention to diverse perspectives—both in general courses and in majors. Connections to real-world agencies, global research and data, etc underscore the emphasis on science as a continuing process of investigation, analysis and collaborative work.

G) **Advanced Cross-Disciplinary Inquiry:** This design principle focuses on “big questions” in the junior and senior year with students working across disciplines, with faculty, on problems that require multiple perspectives—disciplinary and societal—and investigation for their solution. Examples might include student working with faculty on “Mind, Brain and Behavior”; or “Environmental Sustainability”; or “Health and Human Rights: Comparative Policies and Models.”

H) **Integrative Capstones:** Capstones are designed to integrate general education requirements and learning in the major and to demonstrate that students can apply their learning to complex problems.

# Guide to Frequently Confused Terms

**LIBERAL EDUCATION\***: An approach to college learning that empowers individuals and prepares them to deal with complexity, diversity and change. It emphasizes broad knowledge of the wider world (e.g science, culture and society) as well as in-depth achievement in a specific field of interest. It helps students develop a sense of social responsibility as well as strong intellectual and practical skills that span all major fields of study, such as communication, analytical and problem-solving skills, and includes 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 institutional type – often small, often residential – that facilitates close interaction between faculty and students, while grounding its curriculum in the liberal arts disciplines.

**ARTES LIBERALES**: Historically, the basis for the modern liberal arts: the trivium (grammar, logic and rhetoric) and the quadrivium (arithmetic, geometry, astronomy, and music).

**GENERAL EDUCATION**: The part of a liberal education curriculum 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 National Goes to College (Association of American Colleges & Universities, 2002)

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\*76% of employers would recommend this kind of program to college-bound students. These findings are taken from a survey of employers commissioned by AAC&U 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](http://www.aacu.org/leap)