Remapping Liberal Education:

Lee Knefelkamp
"You've got to want to connect the dots, Mr. Micahelson."

Shannon
"We're talking fifteen hundred to find the dots, then another fifteen hundred to connect them."
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
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 recommendand 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 Bachelor’s 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.
Percentage of Employers Who Want Colleges to “Place More Emphasis” on Essential Learning Outcomes

<table>
<thead>
<tr>
<th>Knowledge of Human Cultures and the Physical and Natural World</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Science and technology                                      82%</td>
</tr>
<tr>
<td>- Global issues                                                72%*</td>
</tr>
<tr>
<td>- The role of the United States in the world                   60%</td>
</tr>
<tr>
<td>- Cultural values and traditions (U.S./global)                 53%*</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Intellectual and Practical Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Teamwork skills in diverse groups                            76%*</td>
</tr>
<tr>
<td>- Critical thinking and analytic reasoning                     73%</td>
</tr>
<tr>
<td>- Written and oral communication                                73%</td>
</tr>
<tr>
<td>- Information literacy                                         70%</td>
</tr>
<tr>
<td>- Creativity and innovation                                    70%</td>
</tr>
<tr>
<td>- Complex problem solving                                      64%</td>
</tr>
<tr>
<td>- Quantitative reasoning                                       60%</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Personal and Social Responsibility</th>
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</thead>
<tbody>
<tr>
<td>- Intercultural competence (teamwork in diverse groups)       76%*</td>
</tr>
<tr>
<td>- Intercultural knowledge (global issues)                      72%*</td>
</tr>
<tr>
<td>- Ethics and values                                            56%</td>
</tr>
<tr>
<td>- Cultural values/traditions—U.S./global                       53%*</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrative Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Applied knowledge in real-world settings                     73%</td>
</tr>
</tbody>
</table>

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.acu.org/LEAP.

*Three starred items are shown in two learning outcome categories because they apply to both.
### Employers Evaluate College Graduates’ Preparedness In Key Areas

<table>
<thead>
<tr>
<th>Area</th>
<th>Not well prepared (1-5 ratings)*</th>
<th>Very well prepared (8-10 ratings)*</th>
<th>Mean rating*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork</td>
<td>17%</td>
<td>39%</td>
<td>7.0</td>
</tr>
<tr>
<td>Ethical judgment</td>
<td>19%</td>
<td>38%</td>
<td>6.9</td>
</tr>
<tr>
<td>Intercultural skills</td>
<td>19%</td>
<td>38%</td>
<td>6.9</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>21%</td>
<td>35%</td>
<td>6.7</td>
</tr>
<tr>
<td>Quantitative reasoning</td>
<td>23%</td>
<td>32%</td>
<td>6.7</td>
</tr>
<tr>
<td>Oral communication</td>
<td>23%</td>
<td>30%</td>
<td>6.6</td>
</tr>
<tr>
<td>Self-knowledge</td>
<td>26%</td>
<td>28%</td>
<td>6.5</td>
</tr>
<tr>
<td>Adaptability</td>
<td>30%</td>
<td>24%</td>
<td>6.3</td>
</tr>
<tr>
<td>Critical thinking</td>
<td>31%</td>
<td>22%</td>
<td>6.3</td>
</tr>
<tr>
<td>Writing</td>
<td>37%</td>
<td>26%</td>
<td>6.1</td>
</tr>
<tr>
<td>Self-direction</td>
<td>42%</td>
<td>23%</td>
<td>5.9</td>
</tr>
<tr>
<td>Global knowledge</td>
<td>46%</td>
<td>18%</td>
<td>5.7</td>
</tr>
</tbody>
</table>

*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
Global Knowledge and Skills

- Less than 13% of college students achieve basic competence in a language other than English
- Less than 34% of college students earn credit for an international studies class; of those who do, only 13% take more than four classes
- Less than 10% of college students participate in study abroad programs
- Between 5 and 10% of college students meet all criteria for global competence

ETS Reports the Following on Intellectual Skills:

- Seniors “proficient” in critical thinking: 8%
- Seniors “proficient” at level 3 writing: 10%
- Seniors “proficient” at level 3 math: 10%
Breaking Out of Twentieth Century Silos

★ General Education—Necessary But Not Sufficient

★ The Majors—ALL Majors—Play a Crucial Role in Liberal Education
The Crucial Role of High-Impact Educational Practices

- First-Year Seminars and Experiences
- Common Intellectual Experiences
- Learning Communities
- Writing-Intensive Courses
- Collaborative Assignments and Projects
- "Science as Science Is Done"/Undergraduate Research
- Diversity/Global Learning
- Service Learning, Community-Based Learning
- Internships
- Capstone Courses and Projects
NSSE Research Shows That:

- Higher Levels of Participation in High Impact Practices (HIPs) Correlate with
  - Higher Retention
  - Higher Grade Point Average
  - Higher Self-Reported Gains on Deep/Integrative Learning Scale

- HIPs Offer “Compensatory Benefit” for Students from Less Advantaged Backgrounds and/or with Lower Entering Scores
High Impact Practices Are Only High Impact When They Are Well-Designed, Well-Implemented, Well-Assessed, and Match the Students Developmental Needs
Departments are Ground Zero for Achieving the Essential Learning Outcomes

General Education is Necessary – But Far From Sufficient
The Outcomes Can Be Used at Multiple Levels:

★ For a Department’s Own Review of Intended Outcomes (Good)

★ As a Shared Framework for Program Review Departmental Majors (Better)

★ To Create Clear Connections Between Campus-Wide Goals, Departmental Goals and Each Student’s Goals (Best)
The Major Plays the Decisive Role in:

★ Developing intellectual and practical skills

★ Educating citizens for civic, intercultural and ethical responsibility

★ Teaching students to integrate and apply their learning
Educating Students for Mindful Citizenship

- Service Learning/Community-Based Research
- Ethical Inquiry
- Diversity Courses/Experiences
- Global Learning/Experiences
Teaching Students to Integrate Their Learning:

- Learning Communities – Thematically-Linked Courses
- Supervised Internships
- Advanced Integrative Cross-Disciplinary Courses
- e-Portfolios and Capstone Projects
The Key Steps

★ Clearly Articulated Purposes and Intended Learning Outcomes
★ Assessments Anchored in Students’ Own Work
  – High Impact/High Effort Practices that Focus, Deepen and Show Students’ Achievement of the Intended Outcomes
★ Rubrics (Standards) for Initial, Intermediate and Advanced Achievement
★ Periodic Faculty Review of Strengths, Weaknesses and Needed Improvements Revealed in Assessment of Students’ Completed Work
In Sum

* The Integrative Major Helps Students See What Matters in Their Studies

* Provides Multiple Opportunities for Students to Meet Expected Standards—and to Do Their Best Work

* Helps Students Prepare to Apply their Learning—Over a Lifetime—to New Problems, New Settings, New Challenges