

# Liberal Education & America's Promise



EXCELLENCE FOR EVERYONE AS A NATION GOES TO COLLEGE

***Advancing Student Learning and Success  
through Undergraduate Research***

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McNair Promising Practices  
March 2, 2017



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# ***Critical Questions***

- How are institutions preparing ***all*** students for the kinds of challenges they will confront in life, work and citizenship, both U.S. and global?
- How can we help students to integrate and apply their knowledge and skills to complex, unscripted problems and new settings?



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# ***Critical Questions***

- How can campus educators design **innovative** curricular pathways that provide students with **intentionally** designed learning experiences to help prepare them for success?



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# ***Critical Questions***

How does your institution identify and design the high-impact practices that are best suited for meeting the educational needs of your students?



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# ***About AAC&U***

- The leading national association concerned with the **quality** of student learning in college
- More than 1,400 institutional members – half public/half private, two year, four-year, research universities, state systems, liberal arts, international
- A network of over 30,000 faculty members, academic leaders, presidents and others working for educational reform
- A meeting ground for all parts of higher education – about our shared responsibilities to students and society



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## *Liberal Education and America's Promise (LEAP)*

LEAP is a national initiative that champions the importance of a twenty-first-century liberal education—for individual students and for a nation dependent on economic creativity and democratic vitality.



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# ***The LEAP Essential Learning Outcomes***

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

- **Focused** on engagement with big questions, enduring and contemporary

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

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

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

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

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

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



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# *Essential Learning Outcomes*

- Inquiry and Analysis
- Critical and Creative Thinking
- Written and Oral Communication
- Quantitative Literacy
- Information Literacy
- Teamwork and Problem Solving
- Civic Knowledge and Engagement—local and global
- Intercultural Competence
- Ethical Reasoning
- Lifelong Learning
- Across general and specialized studies



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**85%**

Of institutions  
have a common  
set of intended  
learning outcomes  
for all students

**9%**

Report that  
almost all of their  
students  
understand those  
intended learning  
outcomes.

Source: AAC&U Member Survey, 2016 *Recent Trends in General Education Design, Learning Outcomes, and Teaching Approaches*  
[https://www.aacu.org/sites/default/files/files/LEAP/2015\\_Survey\\_Report2\\_GEtrends.pdf](https://www.aacu.org/sites/default/files/files/LEAP/2015_Survey_Report2_GEtrends.pdf)



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***Is this true for your campus?***

***Is this true for your students?***



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# ***Falling Short?***

## ***College Learning and Career Success***

Key findings from survey among 400 employers and 613 college students conducted in November and December 2014

For The Association of American Colleges and Universities by  
Hart Research Associates



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# *Methodology*

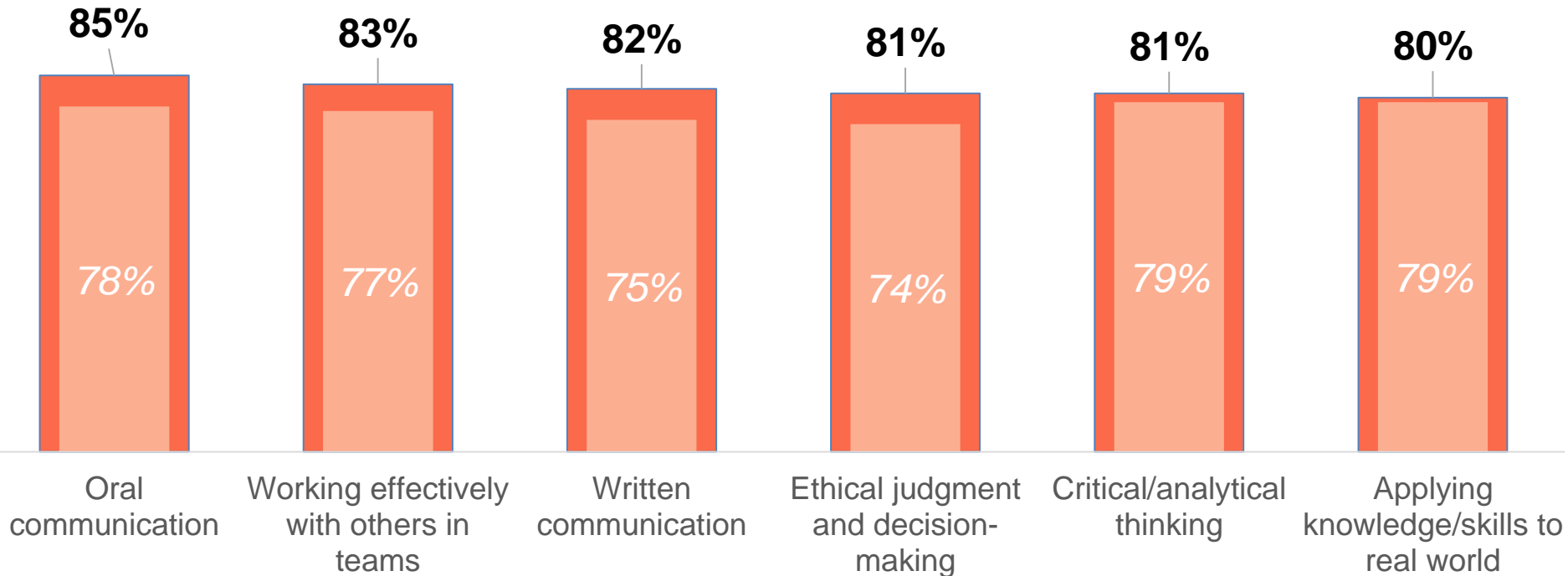
- Online survey among 400 executives at private-sector and nonprofit organizations that have 25 or more employees
  - Each reports that 25% or more of their new hires hold an associate degree from a two-year college or a bachelor's degree from a four-year college
- Online survey among 613 college students, all within a year of obtaining a degree or, in the case of two-year students, transferring to a four-year college
  - Sample includes 304 students at four-year public colleges, 151 students at four-year private colleges, and 158 students at two-year colleges



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# *Learning Outcomes that at Least Four in Five Employers Rate as Very Important*

Employers Students



\*8, 9, 10 ratings on zero-to-10 scale, 10 = very important



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*Employers say they are much more likely to consider hiring recent college graduates who have completed an applied learning or project-based learning experience*

- 94%** Internship/apprenticeship
- 87%** Senior thesis/project
- 80%** Collaborative research project
- 69%** Service learning project



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## *Attributes employers seek on a candidate's resume*

Attribute	% of respondents
Leadership	80.1%
Ability to work in a team	78.9%
Communication skills (written)	70.2%
Problem-solving skills	70.2%
Communication skills (verbal)	68.9%
Strong work ethic	68.9%
Initiative	65.8%
Analytical/quantitative skills	62.7%
Flexibility/adaptability	60.9%
Technical skills	59.6%
Interpersonal skills (relates well to others)	58.4%
Computer skills	55.3%
Detail-oriented	52.8%

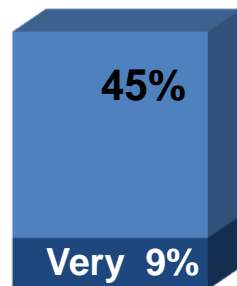
*Source: Job Outlook 2016, National Association of Colleges and Employers*



# ***Most employers say they would find e-portfolios useful.***

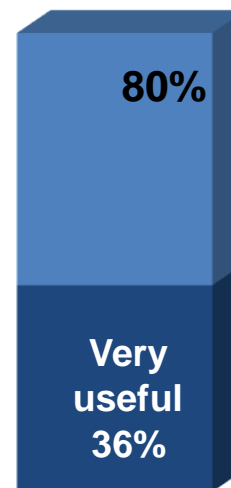
*Employers: How useful do you find/would you find this in helping you evaluate job applicants'/recent college graduates' potential to succeed at your company?*

College transcript



**Very/fairly useful**

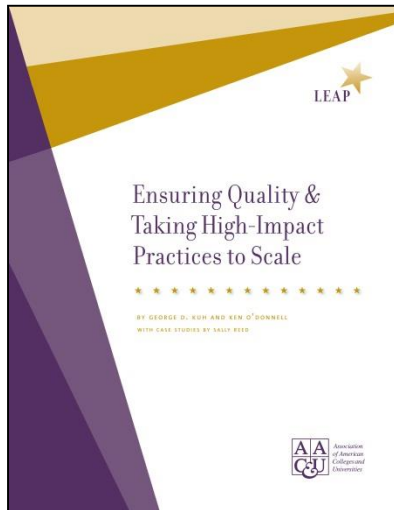
Electronic portfolio of student work summarizing and demonstrating accomplishments in key skill and knowledge areas



**Very/fairly useful**



# ***“High-Impact Practices” that Help Students Achieve the Outcomes***



- ★ First-Year Seminars and Experiences
- ★ Common Intellectual Experiences
- ★ Learning Communities
- ★ Writing-Intensive Courses
- ★ Collaborative Assignments & Projects
- ★ Undergraduate Research
- ★ Diversity/Global Learning
- ★ Service Learning, Community-Based Learning
- ★ Internships
- ★ Capstone Courses and Projects



# ***WHAT MAKES A PRACTICE HIGH-IMPACT?***



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# *HIPs: Eight Key Elements*

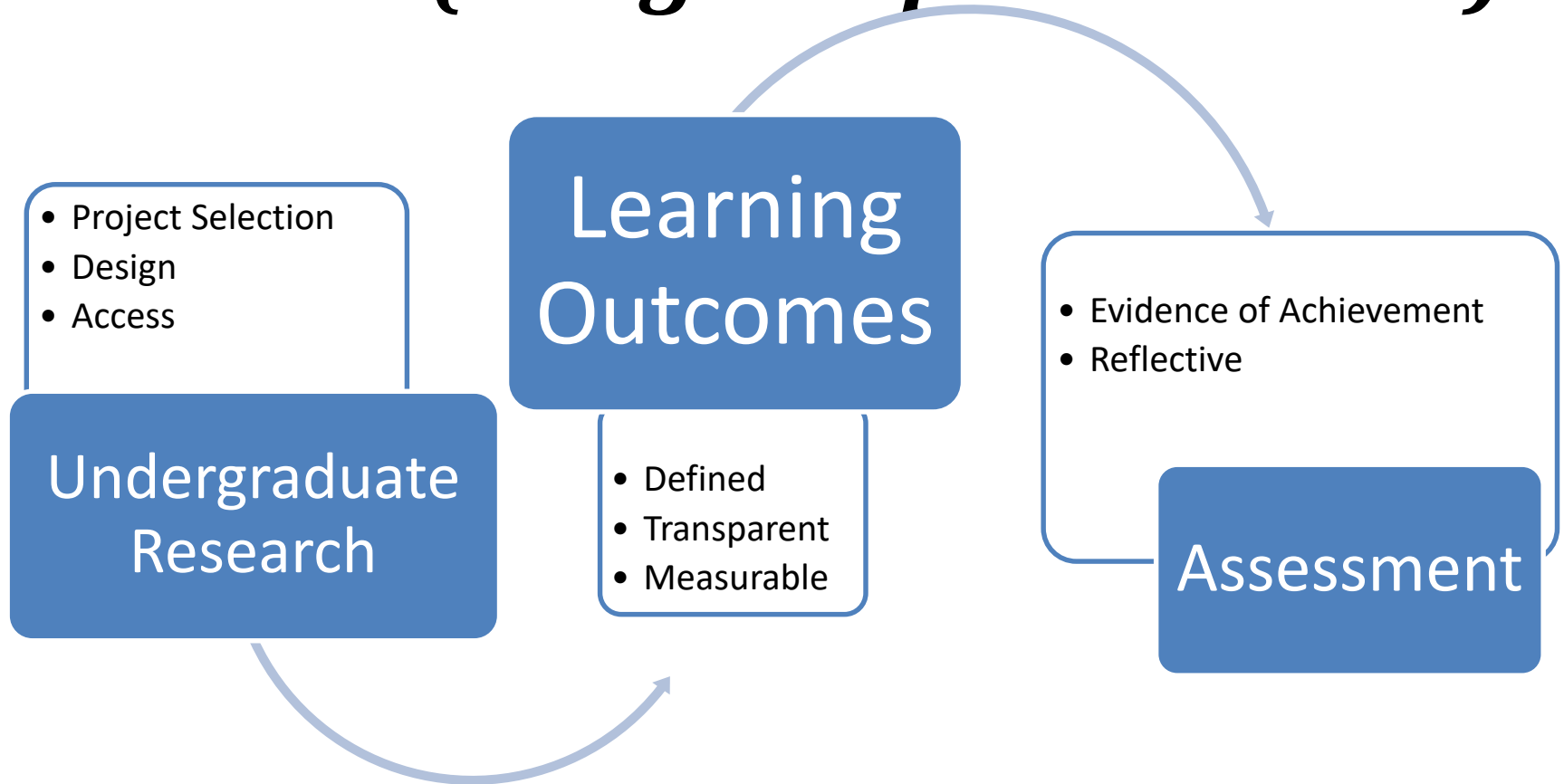
- Performance Expectations Set at Appropriately High Levels
- Significant Investment of Time and Effort by Students Over an Extended Period of Time
- Interactions with Faculty and Peers about Substantive Matters
- Experiences with Diversity
- Frequent, Timely and Constructive Feedback
- Structured Opportunities to reflect and Integrate Learning
- Opportunities to Discover Relevance of Learning Through Real-World Applications
- Public Demonstration of Competence

Source: Kuh, George D., and Ken O'Donnell. 2013. *Ensuring Quality and Taking High-Impact Practices to Scale*. Washington, DC: Association of American Colleges and Universities.



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# ***Intentionality of Undergraduate Research (A High-Impact Practice)***



# *Critical Questions*

- What are your goals for improving student learning?
- How are the goals connected to the institution's mission and vision for student success and learning?
- What is your evidence of student achievement of outcomes?



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# *How “high-impact”? And for whom?*

- Data from 38 institutions (CA,OR,WI)
- NSSE data from 2006-2008 (one year of data from each campus)
- HIPs examined
  - Learning Communities
  - Service learning
  - Study Abroad
  - Internship
  - Capstone
  - Student/Fac. Res.
- 0-6 experiences
- 20,000+ students
  - First Year = 36.5%, SR = 51.1% (included Soph., Jr, Unclassified)
- Transfer = 33%
- First-generation = 51%
- Race
  - White= 58.7%
  - African American = 2.5%
  - Asian American = 11.8%
  - Hispanic = 13.2%
  - (Other = 6.2%, No Response = 7.5%)

What are the effects of participation in  
certain high-impact experiences?

What are the effects of participation in  
multiple high-impact experiences?

# *Outcomes Examined*

- **Deep Learning** = Pursuit of learning beyond memorization to seek underlying meanings & relationships
- **Gains in General Education** = Writing/speaking skills, acquire broad general educ, analyzing quant. probs
- **Gains in Practical Competence** = Work related knowledge & skills, working effectively w/ others, use of technology, quant. problem-solving, solving complex real-world problems
- **Gains in Personal & Social Development** = Developing ethics, understanding diff. bkgrds, understanding self, contributing to community, voting

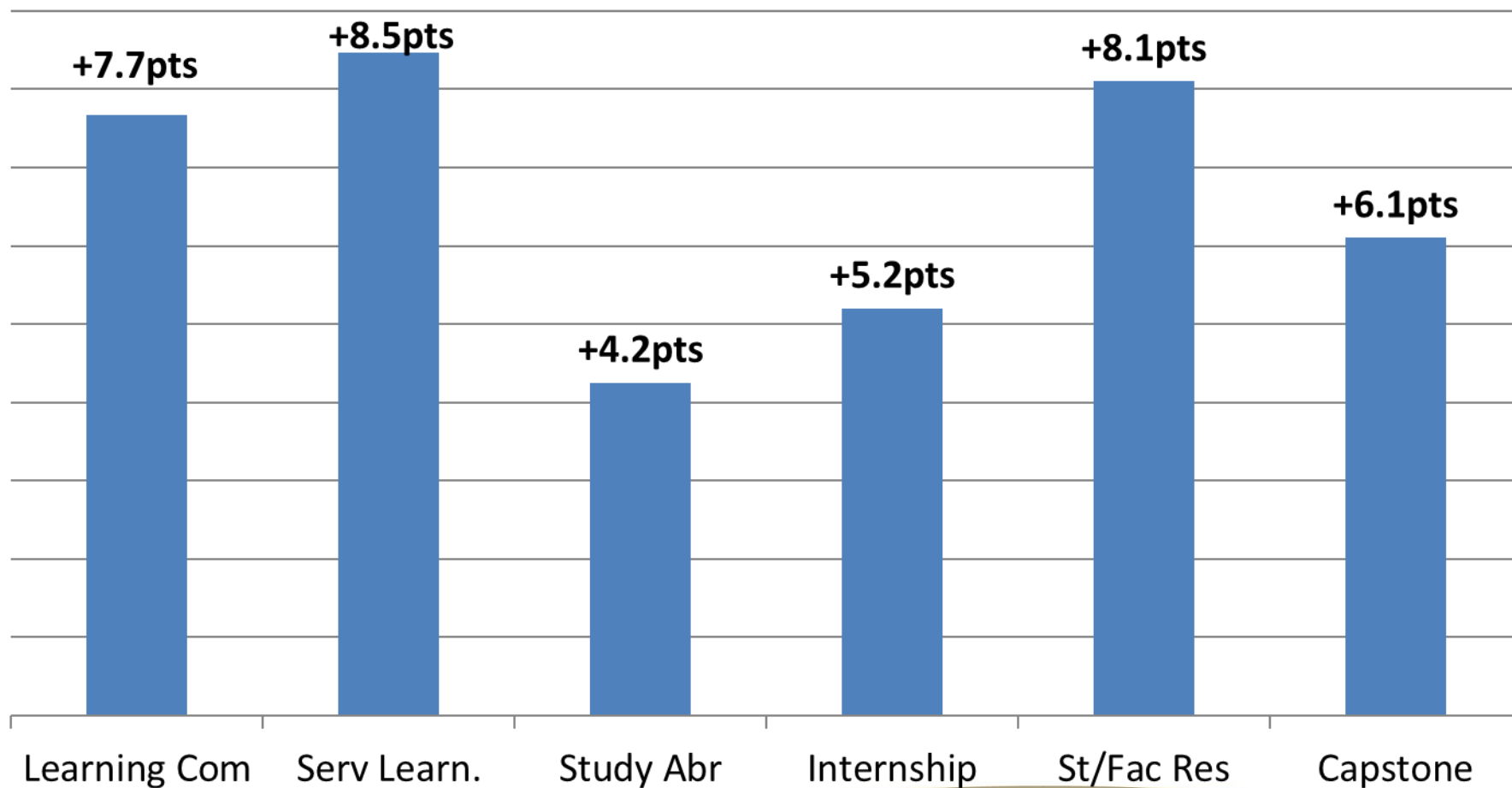
Finley & McNair, *Assessing Underserved Students' Engagement in High-Impact Practices*, 2013.



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# HIP Participation vs. No Participation: Avg. Boost Across All Outcomes

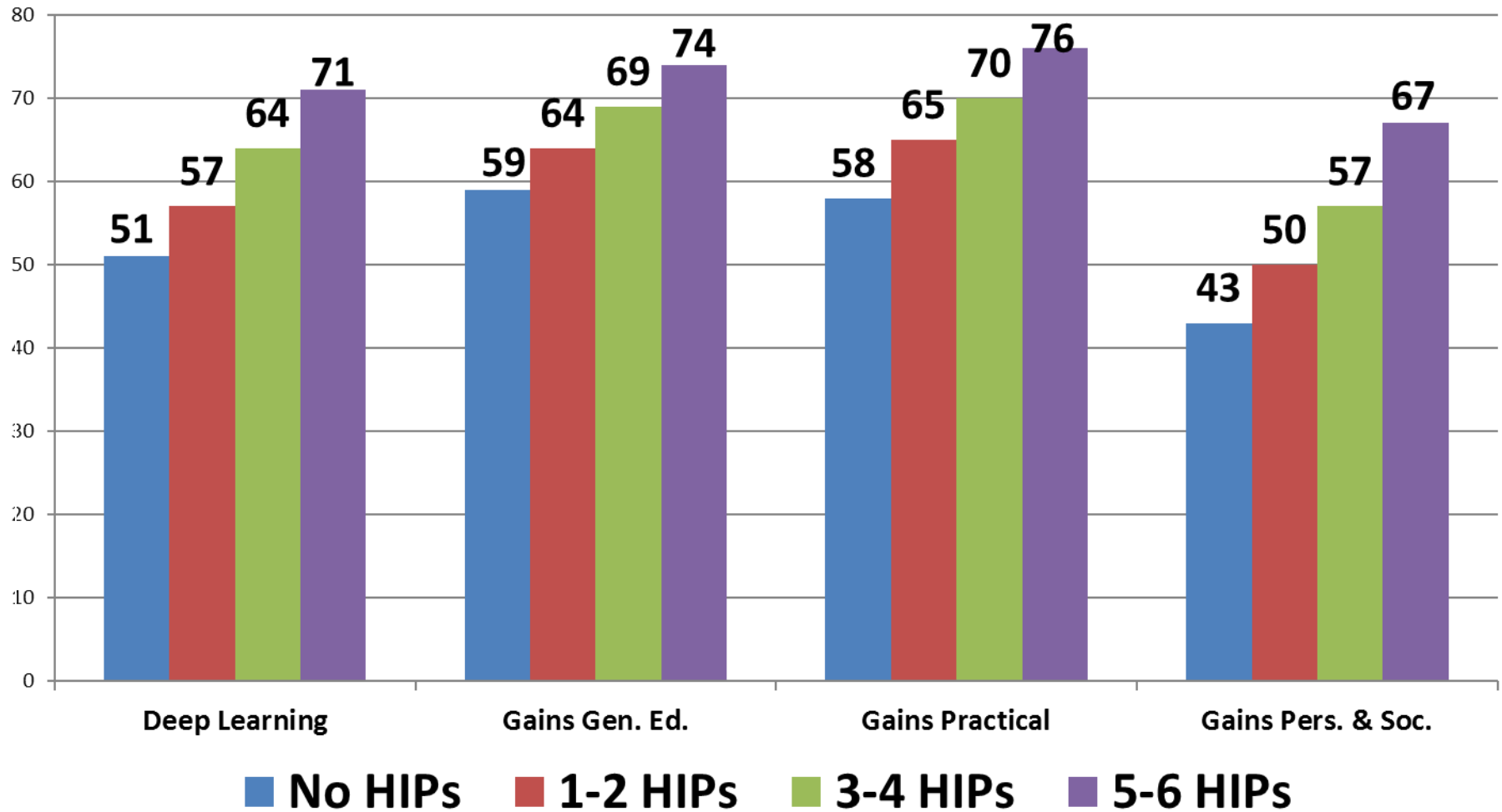


Finley & McNair, *Assessing Underserved Students' Engagement in High-Impact Practices*, 2013.



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# *Effect of participation in Multiple HIPs on Outcomes*



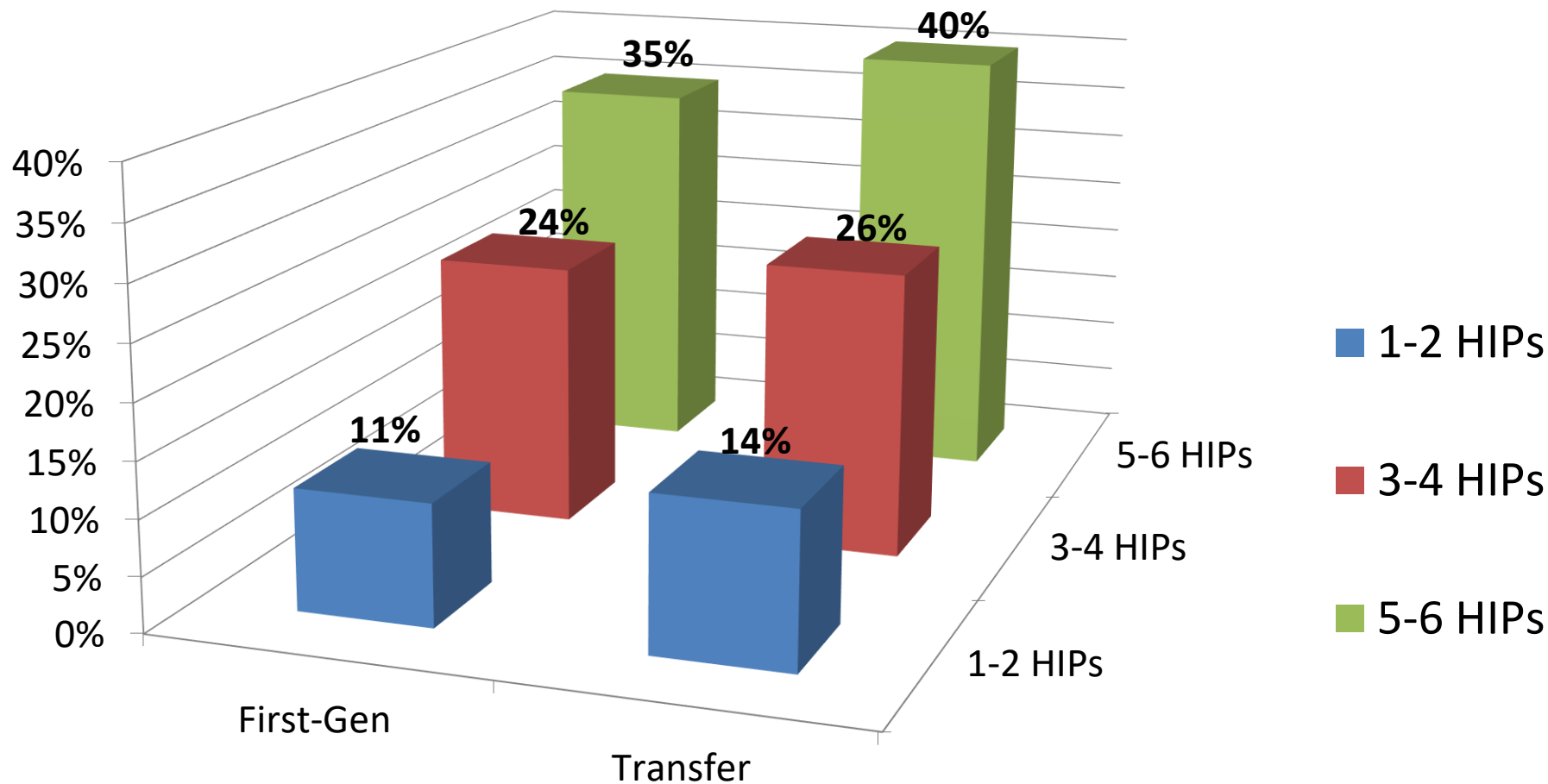
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What is the effect of participation in multiple HIPs relative to students in the same group who do NOT participate?



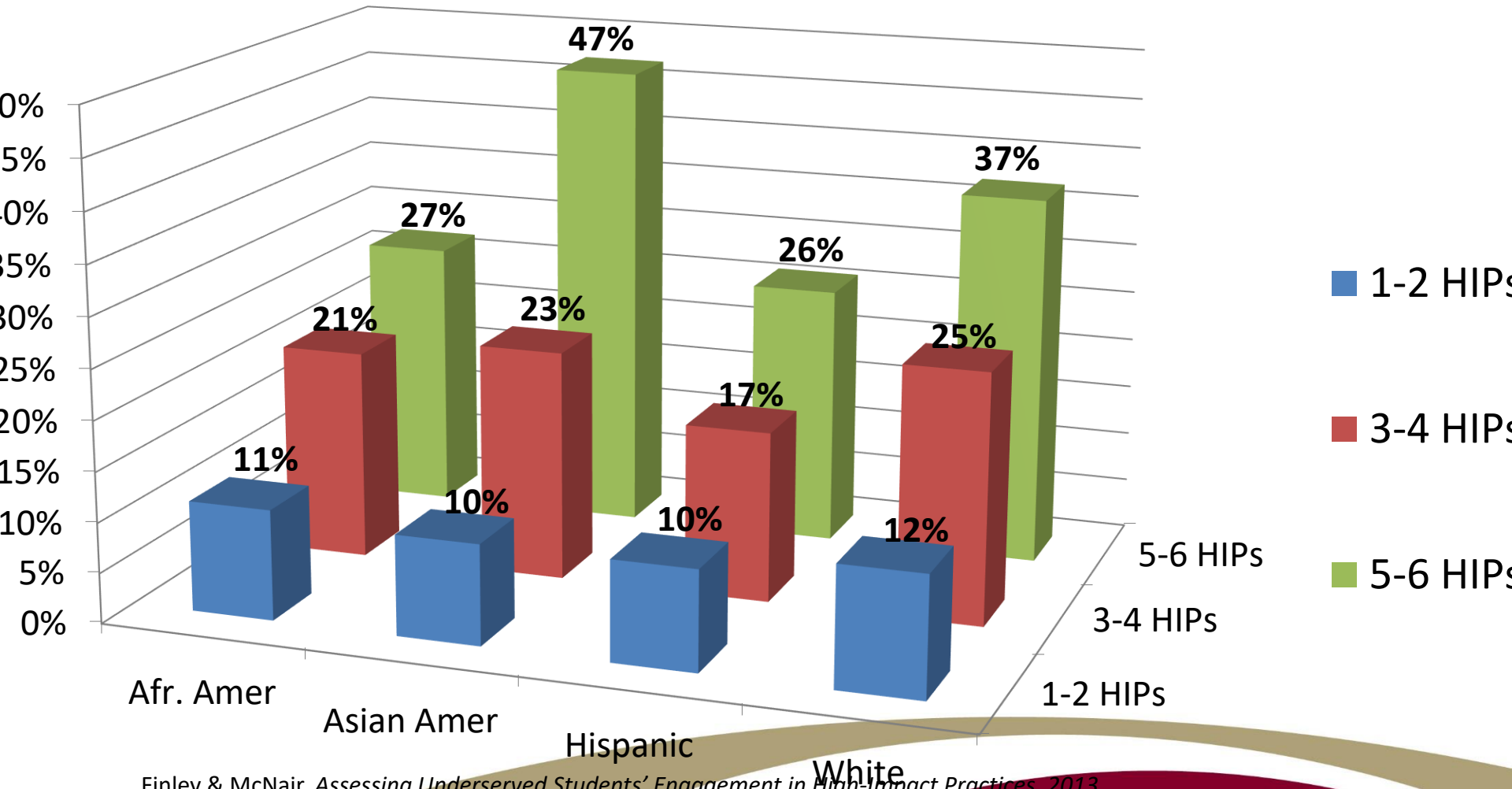
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# ***Avg % Increase in Outcomes w/ Participation in Multiple HIPs Vs. No Participation (by First-Generation & Transfer Status)***



Finley & McNair, *Assessing Underserved Students' Engagement in High-Impact Practices*, 2013.

# *Avg % Increase in Outcomes w/ Participation in Multiple HIPs Vs. No Participation (by Race)*



Finley & McNair, *Assessing Underserved Students' Engagement in High-Impact Practices*, 2013.



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# *What makes undergraduate research effective*

- Challenge students to confront novel ideas
- Engage students in the collection and analysis of original data
- Emphasize opportunities for applying research to real contexts or solving real problems
- Increase the time students dedicate to the project
- Maximize opportunities for students and faculty to interact and engage in substantive matters

Elrod, Susan, Kinzie, Julian & Husic, Diane. 2010. "Research and Discovery Across the Curriculum." *Peer Review* 12 (2), <http://www.aacu.org/publications-research/periodicals/research-and-discovery-across-curriculum>



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# *What makes undergraduate research effective*

- Be relevant and interesting to students, and influenced by their ideas to maximize engagement and learning
- Provide opportunities for students to receive frequent and meaningful feedback about their work
- Increase students ownership of the project over time
- Provide an occasion for students to present their work in oral and written formats
- Allow students to work in teams

Elrod, Susan, Kinzie, Julian & Husic, Diane. 2010. "Research and Discovery Across the Curriculum." *Peer Review* 12 (2), <http://www.aacu.org/publications-research/periodicals/research-and-discovery-across-curriculum>



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# *List of VALUE Rubrics*

- **Knowledge of Human Cultures & the Physical & Natural Worlds**
  - Content Areas → No Rubrics
- **Intellectual and Practical Skills**
  - Inquiry & Analysis
  - Critical Thinking
  - Creative Thinking
  - Written Communication
  - Oral Communication
  - Reading
  - Quantitative Literacy
  - Information Literacy
  - Teamwork
  - Problem-solving
- **Personal & Social Responsibility**
  - Civic Knowledge & Engagement
  - Intercultural Knowledge & Competence
  - Ethical Reasoning
  - Foundations & Skills for Lifelong Learning
  - Global Learning
- **Integrative & Applied Learning**
  - Integrative & Applied Learning



# VALUE Rubric

## CRITICAL THINKING VALUE RUBRIC

*for more information, please contact [value@aacu.org](mailto:value@aacu.org)*



The VALUE rubrics were developed by teams of faculty experts representing colleges and universities across the United States through a process that examined many existing campus rubrics and related documents for each learning outcome and incorporated additional feedback from faculty. The rubrics articulate fundamental criteria for each learning outcome, with performance descriptors demonstrating progressively more sophisticated levels of attainment. The rubrics are intended for institutional-level use in evaluating and discussing student learning, not for grading. The core expectations articulated in all 15 of the VALUE rubrics can and should be translated into the language of individual campuses, disciplines, and even courses. The utility of the VALUE rubrics is to position learning at all undergraduate levels within a basic framework of expectations such that evidence of learning can be shared nationally through a common dialog and understanding of student success.

### Definition

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

### Framing Language

This rubric is designed to be transdisciplinary, reflecting the recognition that success in all disciplines requires habits of inquiry and analysis that share common attributes. Further, research suggests that successful critical thinkers from all disciplines increasingly need to be able to apply those habits in various and changing situations encountered in all walks of life.

This rubric is designed for use with many different types of assignments and the suggestions here are not an exhaustive list of possibilities. Critical thinking can be demonstrated in assignments that require students to complete analyses of text, data, or issues. Assignments that cut across presentation mode might be especially useful in some fields. If insight into the process components of critical thinking (e.g., how information sources were evaluated regardless of whether they were included in the product) is important, assignments focused on student reflection might be especially illuminating.

### Glossary

*The definitions that follow were developed to clarify terms and concepts used in this rubric only.*

- **Ambiguity:** Information that may be interpreted in more than one way.
- **Assumptions:** Ideas, conditions, or beliefs (often implicit or unstated) that are "taken for granted or accepted as true without proof." (quoted from [www.dictionary.reference.com/browse/assumptions](http://www.dictionary.reference.com/browse/assumptions))
- **Context:** The historical, ethical, political, cultural, environmental, or circumstantial settings or conditions that influence and complicate the consideration of any issues, ideas, artifacts, and events.
- **Literal meaning:** Interpretation of information exactly as stated. For example, "she was green with envy" would be interpreted to mean that her skin was green.
- **Metaphor:** Information that is (intended to be) interpreted in a non-literal way. For example, "she was green with envy" is intended to convey an intensity of emotion, not a skin color.

# CRITICAL THINKING VALUE RUBRIC

for more information, please contact [value@aacu.org](mailto:value@aacu.org)

## Criteria

### Definition

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

*Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.*

## Levels

	Capstone 4	Milestones 3 2		Benchmark 1
<b>Explanation of issues</b>	Issue/ problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding	Issue/ problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/ problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/ problem to be considered critically is stated without clarification or description.
<b>Evidence</b> <i>Selecting and using information to investigate a point of view or conclusion</i>	Information is taken from source(s) with enough interpretation/ evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.	Information is taken from source(s) with enough interpretation/ evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning	Information is taken from source(s) with some interpretation/ evaluation, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken as mostly fact, with little questioning	Information is taken from source(s) without any interpretation/ evaluation. Viewpoints of experts are taken as fact, without question.
<b>Influence of context and assumptions</b>	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.
<b>Student's position (perspective, thesis/hypothesis)</b>	Specific position (perspective, thesis/hypothesis) is imprecise, taking into account the complexities of an issue. Limits of position, perspective, thesis/hypothesis are acknowledged. Others' points of view are synthesized with the position.	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.
<b>Conclusions and related outcomes (implications and consequences)</b>	Conclusions and related outcomes (implications and consequences) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusions and related outcomes (implications and consequences) are identified clearly.	Conclusions and related outcomes (implications and consequences) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

## Performance Descriptors

# *Guiding Questions*

- What are promising direct assessment strategies for evaluating students' achievement of learning outcomes, as a result of their participation in high-impact practices?
- How can campus educators provide higher levels of transparency of the learning outcomes to help students understand the benefits to their lifelong success and career preparation?



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# *Guiding Questions*

- How can the performance descriptors identified in the rubrics inform the design of high-impact practices?



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# Current VALUE Initiative (2014-2016)



92 institutions submitted  
21,189 student work  
products for assessment by  
288 faculty using VALUE  
rubrics.



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# ***Intentionality***



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# *Cycle of Intentional Learning*

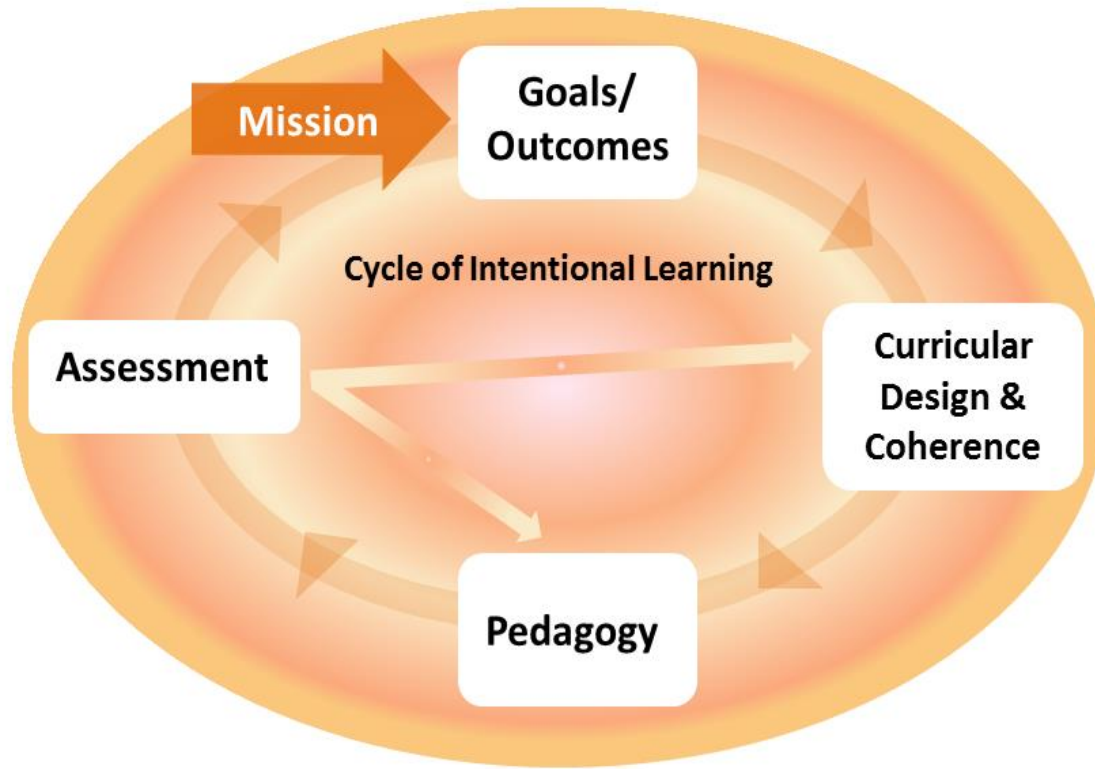
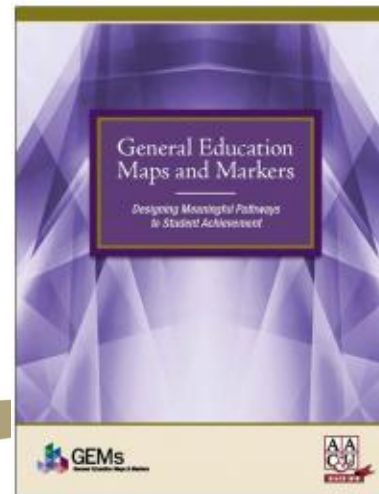
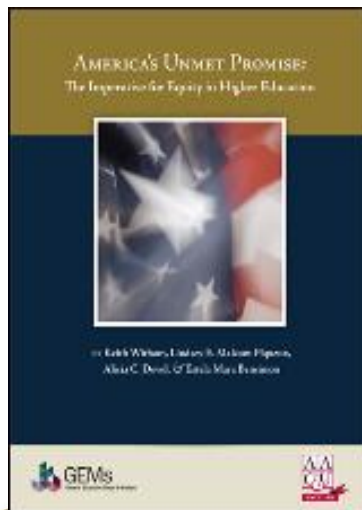
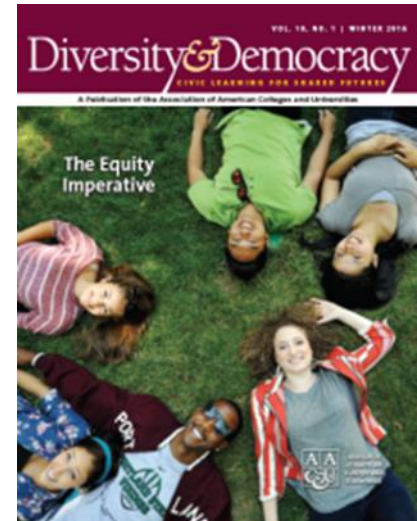
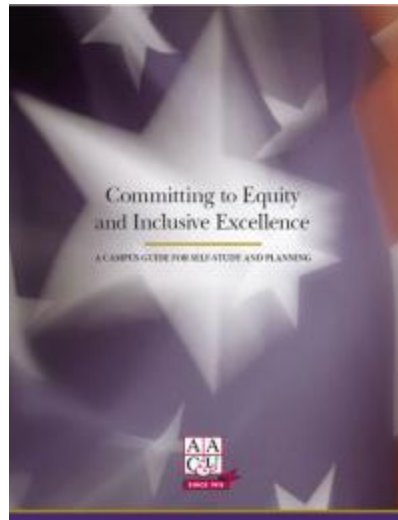
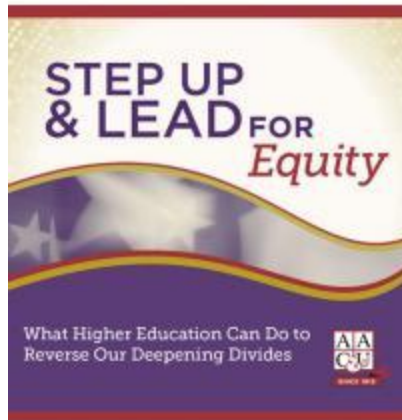


Image adapted from Andrea Leskes and Ross Miller, *Purposeful Pathways: Helping Students Achieve Key Learning Outcomes* (Washington, DC: Association of American Colleges and Universities, 2006). Originally printed in *Taking Responsibility for the Quality of the Baccalaureate Degree* (AAC&U 2004)

# AAC&U Resources



LEAP



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# Thank you!

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