

# **Research: A Report on Its Importance to the Academic Mission**

**Presentation to the Board of Regents Educational  
Policy Committee**

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UNIVERSITY OF MINNESOTA  
**Driven to Discover<sup>SM</sup>**

# Tripartite Mission

- Discover knowledge (research & scholarship)
- Transfer knowledge (education, publication)
- Apply knowledge (translation, outreach & extension)

# Well Known Benefits of Research

- Discovery and knowledge creation
- Innovation, technological advancement
- Economic growth
- Improved quality of life
- Competitiveness
- Reputation

*But.....*

# Why is Research Important to Education?

- Research...
  - A perpetual process of discovery; a way of knowing
    - Life-long learning skills
  - On the forefront of knowledge
    - Discovering what others teach; influencing how others think
  - Exposure to world class faculty and mentors
    - Positive attributes of scholar-teachers
  - Benefits to students
    - More sophisticated, better-prepared thinkers

# Why is Research Important to Education?

## - *Benefit to Students* -

### *Studies reveal that research:*

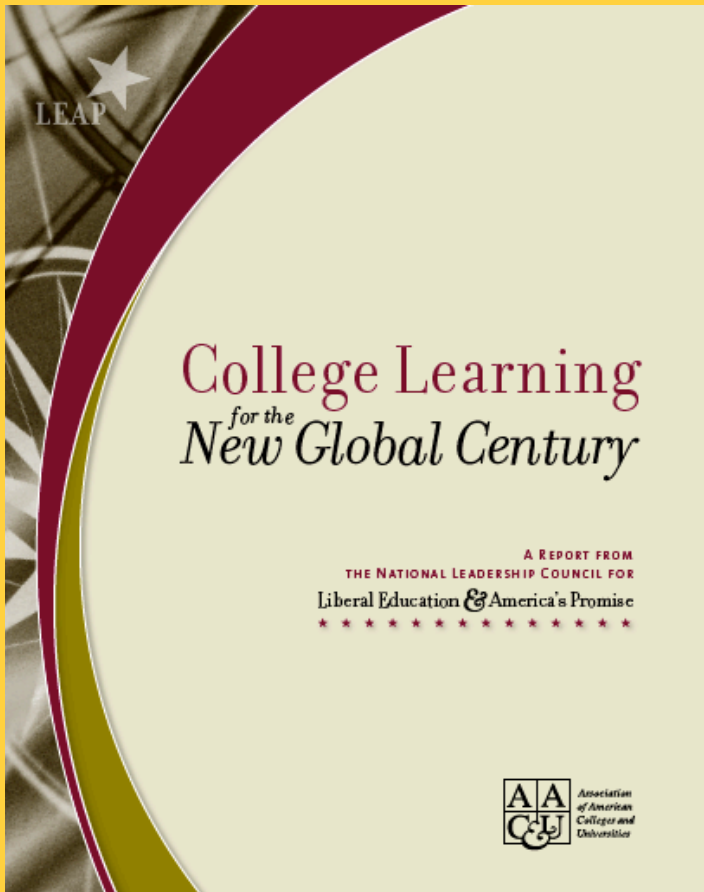
- Lays the foundation for innovation
- Promotes critical and creative thinking
- Improves problem solving skills
- Contributes to collaborative learning
- Intensifies student-faculty interactions
- Enhances communication skills
- Encourages teamwork
- Promotes intellectual independence and maturation
- Develops the ability to identify, access and analyze information
- Encourages confidence; builds character
- Enhances career competitiveness

# In Their own Words...

- *Students cite the benefits of research* -

- Enhances intellectual curiosity
- Develops ability to think logically about complex issues
- Improves ability to collect and analyze information
- Enhances information literacy
- Improves ability to communicate effectively
- Contributions to professional advancement:
  - Opportunities to publish or present work
  - Enhance professional credentials
  - Develop relations with mentors and professionals
- Contributions to professional development:
  - Understanding of professional behavior
  - Professional problem solving
  - Better understand demands of a career

# The Global Century



*“...in this global century, every student—not just the fortunate few—will need wide-ranging and cross-disciplinary knowledge, higher-level skills, an active sense of personal and social responsibility, and a demonstrated ability to apply knowledge to complex problems. The learning students need is best described as a liberal—and liberating education.”*

# Essential Learning Outcomes & Principles of Excellence

## 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 dialog with hundreds of college and university students 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 and Nation Goals in College 1000*, *Taking Responsibility for the Quality of the Baccalaureate Degree* (2006), and *Liberal Education Outcomes: A Preliminary Report on Achievement in College* (2008).

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## 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

*Immense 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*

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# Research Contributes to Essential Learning Outcomes

<p><b>•Knowledge of Human Cultures and the Physical and Natural World</b></p> <p>–Focused by engagement with big questions</p>	
<p><b>•Intellectual and Practical Skills</b></p> <p>–Inquiry analysis, Critical and creative thinking, Written and oral communication, Quantitative literacy, Information literacy, Team work and problem solving</p>	
<p><b>•Personal and Social Responsibility</b></p> <p>–Civic knowledge and engagement, Intercultural knowledge and competence, ethical reasoning and action, Foundations and skills for lifelong learning</p>	
<p><b>•Integrative Learning</b></p> <p>–Synthesis and advanced accomplishment across general and specialized studies through the application of knowledge, skills, and responsibilities to new settings and complex problems</p>	

# Research Contributes to Principles of Excellence

<ul style="list-style-type: none"><li>• <b>Aim High – Make Excellence Inclusive</b><ul style="list-style-type: none"><li>– Make Essential Learning Outcomes a framework for the entire educational experience</li></ul></li></ul>	
<ul style="list-style-type: none"><li>• <b>Give Students a Compass</b><ul style="list-style-type: none"><li>– Focus student’s plan of study on achieving the Essential Learning Outcomes &amp; assess progress</li></ul></li></ul>	
<ul style="list-style-type: none"><li>• <b>Teach the Arts of Inquiry and Innovation</b><ul style="list-style-type: none"><li>– Immerse all students in Analysis, Discovery, Problem Solving, and Communication</li></ul></li></ul>	
<ul style="list-style-type: none"><li>• <b>Engage the Big Questions</b><ul style="list-style-type: none"><li>– Teach through the Curriculum to Far-Reaching Issues</li></ul></li></ul>	

# Research Contributes to Principles of Excellence

<ul style="list-style-type: none"><li>• <b>Connect Knowledge with Choices and Action</b><ul style="list-style-type: none"><li>–Prepare Students for Citizenship and Work through Engaged and Guided Learning on “Real-World” Problems</li></ul></li></ul>	
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*“Scholar-teachers who have standing within the educational community will need to take the lead...”*

# Essential Investment Strategies to Enhance Research and Learning

- Invest in world-class faculty
- Invest in interdisciplinary research and scholarship
- Forge connections between the arts and sciences
- A comprehensive, balanced and interconnected portfolio of scholarship is essential
- Continued strong investments in disciplinary scholarship are crucial to success

***“Discovery means education means possibility.”***

Regent Patricia Simmons