

Planning for interdisciplinary change in higher education



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The disciplines and higher education



**“THERE IS VALUE IN SEEING THIS SECTOR
AS ONE THAT HAS DEVELOPED ITS OWN
MASSIVE STRUCTURE AND BOUNDED
PROCEDURES”**

--BURTON CLARK (1983)

Disciplines as normative culture



- Academic disciplines serve as organizational foundation for higher education
- Cultural norms reflected in:
 - organizational structure*
 - physical structure*
 - development and delivery of curriculum*

Disciplines as social ecology



- Social ecology reflected in the relationship between human behavior and the physical/social/structural environment
- Reflected through key components of *human space* (Strange and Banning, 2000):
 1. physical condition and layout of campus
 2. characteristics and perceptions of people within the environment
 3. organizational structures that give meaning to the environment

Change to the disciplines and space



- Interdisciplinarity is an increasingly urgent 21st century demand for higher education
- 2008 statement from National Science Foundation: “Interdisciplinarity is vital for economic and social growth as well as cutting-edge knowledge and innovation”
- Question: *How does space reflect the challenge of change required to foster interdisciplinarity?*

Data Collection



- Analysis of strategic plans, campus plans, and institutional documents related to interdisciplinary activity and facilities
- Identified 21 universities with more than \$300 million dollars in federal research funding

Columbia

Pennsylvania State University

Univ of Pennsylvania

Cornell

Univ of California- Los Angeles

Univ of Pittsburgh

Duke

Univ of California- San Diego

Univ of Southern California

Harvard

Univ of Colorado

Univ of Washington

Johns Hopkins

Univ of Michigan

Univ of Wisconsin

MIT

Univ of Minnesota

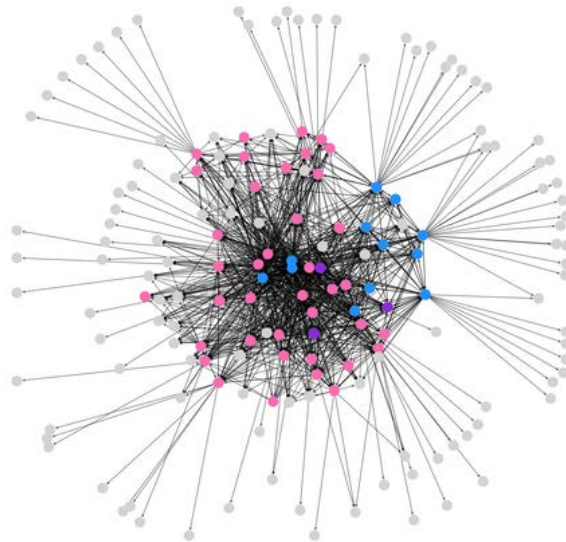
Washington – St. Louis

Stanford

Univ of North Carolina

Yale

Research study and findings



Eliminate barriers between academic disciplines



- **Actively break down institutional silos as defined by physical space and location**
- **University of North Carolina's Carolina North research campus**



Flexible and innovative interdisciplinary spaces



- Interdisciplinary support could not be achieved without interdisciplinary spaces that fostered collaboration and risk taking



MIT's Building 20

Stanford University's
Clark Center



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Interdisciplinary collaborative involvement



- **Deliberate planning**
- **Need to include users of the space in all phases of design and construction**
- **Cornell University's Life Sciences Technology Building**



Conclusions



- **Success in interdisciplinary endeavors achieved through deliberate organizational culture, well-defined institutional strategy, and the creation of physical spaces**
- **Goal of planning and creating physical space for interdisciplinarity to create an environment of risk taking, entrepreneurship, and innovation can occur across the institution**