

21st Century Questions For & From 21st Century Clients

Seattle AIA CAE
October 19, 2016

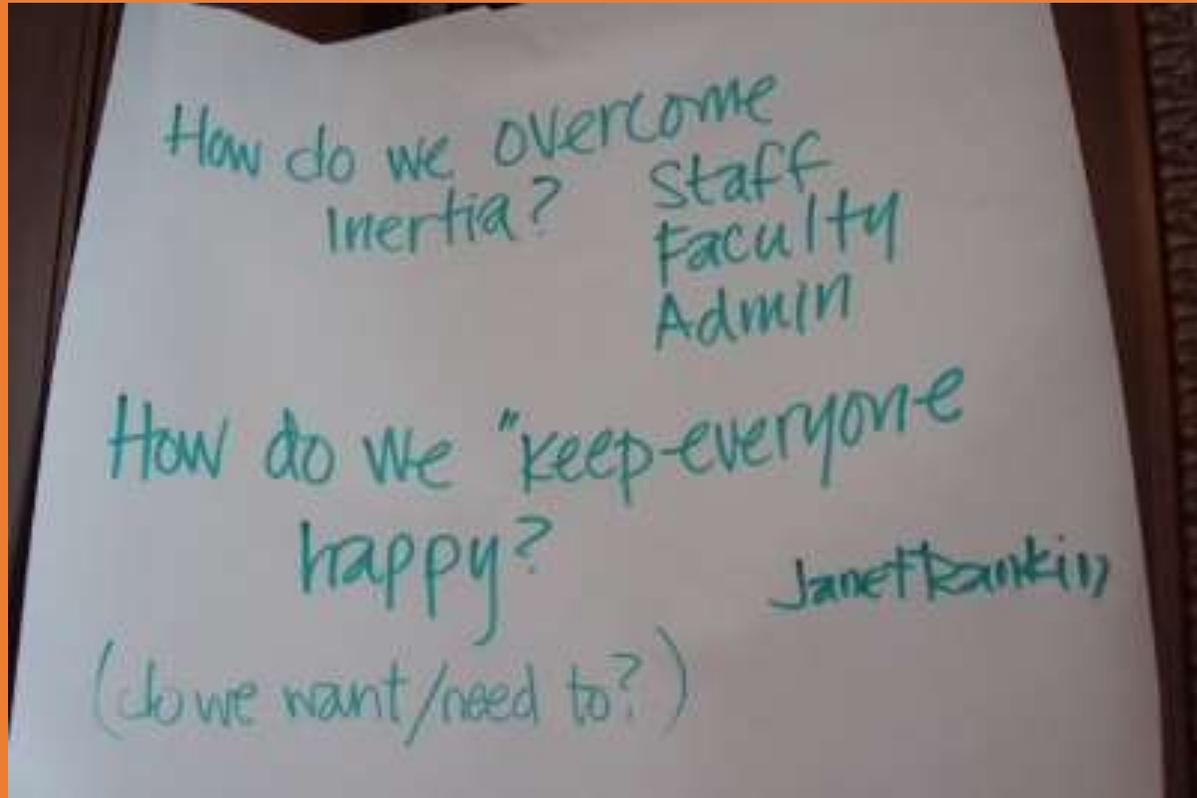
Jeanne L. Narum
Principal—Learning Spaces Collaboratory



Overview

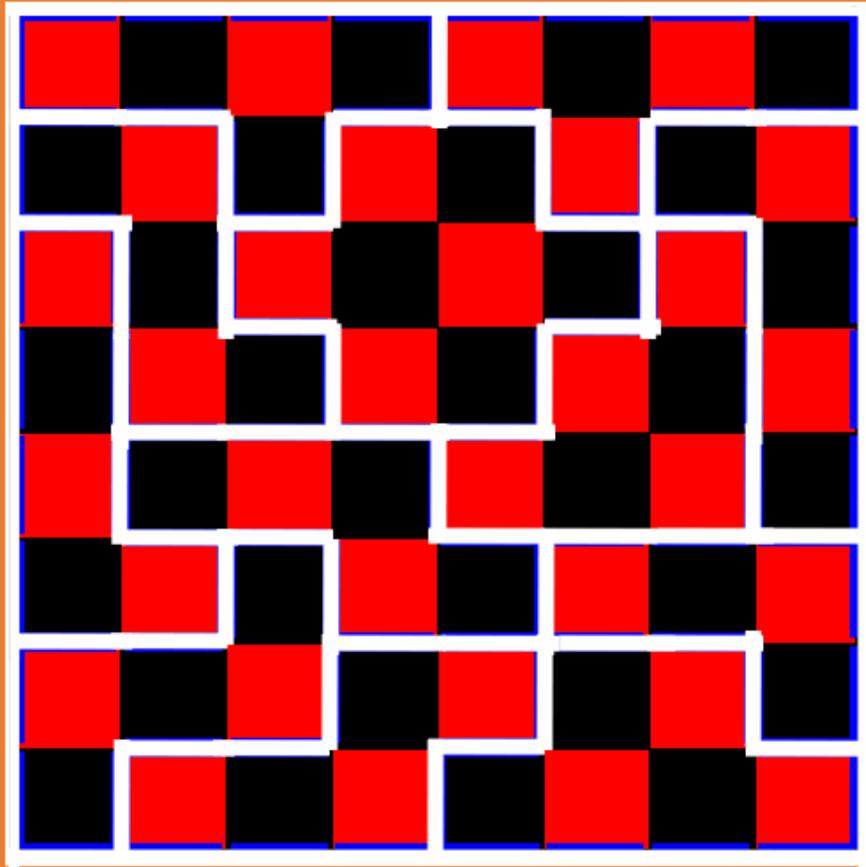
- ❖ *Questions*—From Clients, For Clients
- ❖ *What Works*—Findings from Research, From the Field
- ❖ *A Metaphor*—The Yardstick of Planning
- ❖ *What Next*—For Learners, For Planners, For the LSC





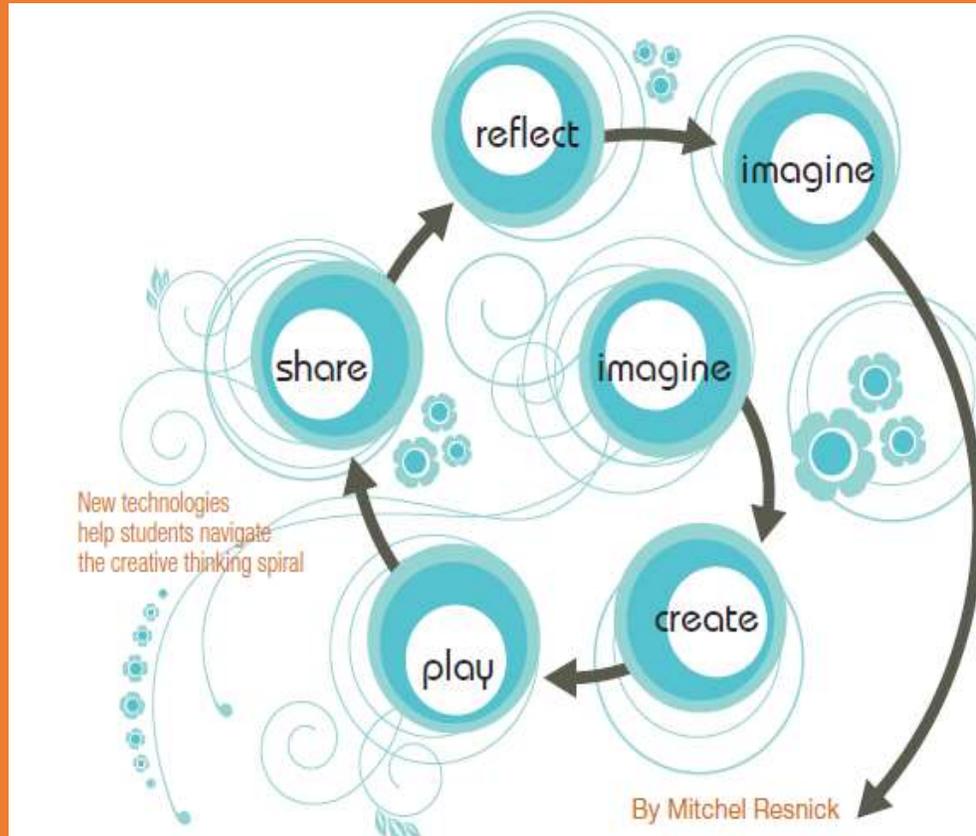
To be able to ask a question clearly is two-thirds of the way to getting it answered.

—John Ruskin. 1819 – 1900.



The point...is to become more adept in inventing imaginary futures ... to rethink the assumptions we use to understand the present.

–Riel Miller. “Embracing Complexity and Using the Future.” *ETHOS*. October 2011.



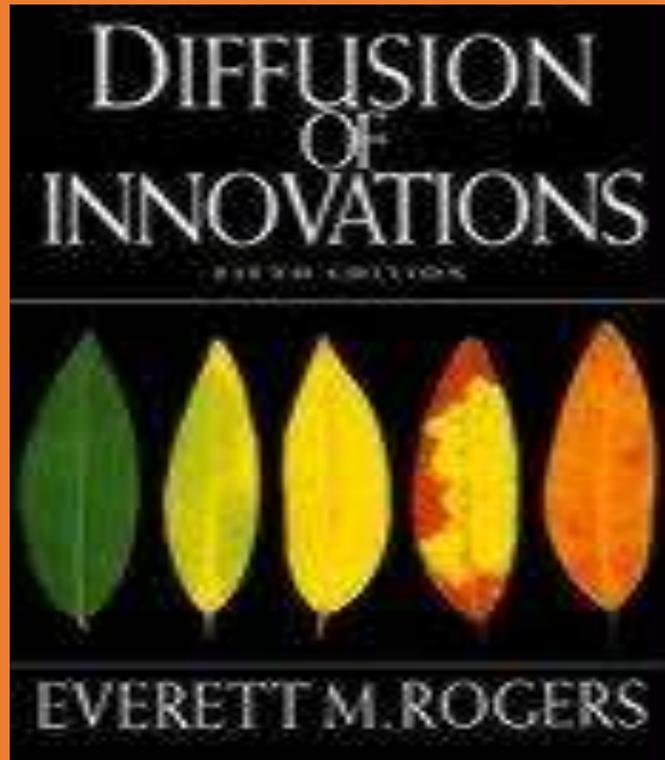
A change agent is an individual who influences client's innovation-decisions in a direction deemed desirable to secure the adaptation of new ideas....

— Rosabeth Moss Kanter. *Evolve!: Succeeding in the Digital Culture of Tomorrow*. Harvard Business Press. 2001.



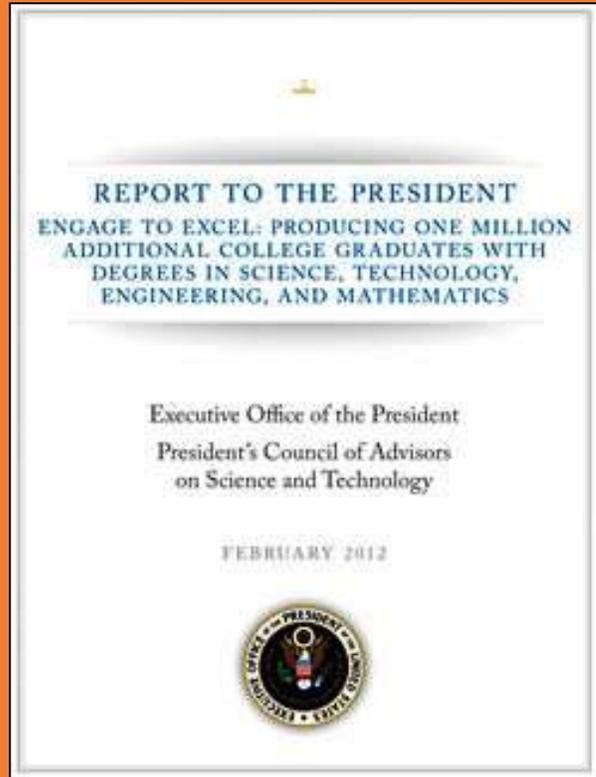
The power of the unaided individual mind is highly overrated. Much human creativity is social, arising from activities that take place in a social context in which interaction with other people and the artifacts that embody collective knowledge are essential contributors.

— Fischer, Gerhard. *Social Creativity: Making All Voices Heard*. University of Colorado, Center for LifeLong Learning and Design. 2005.



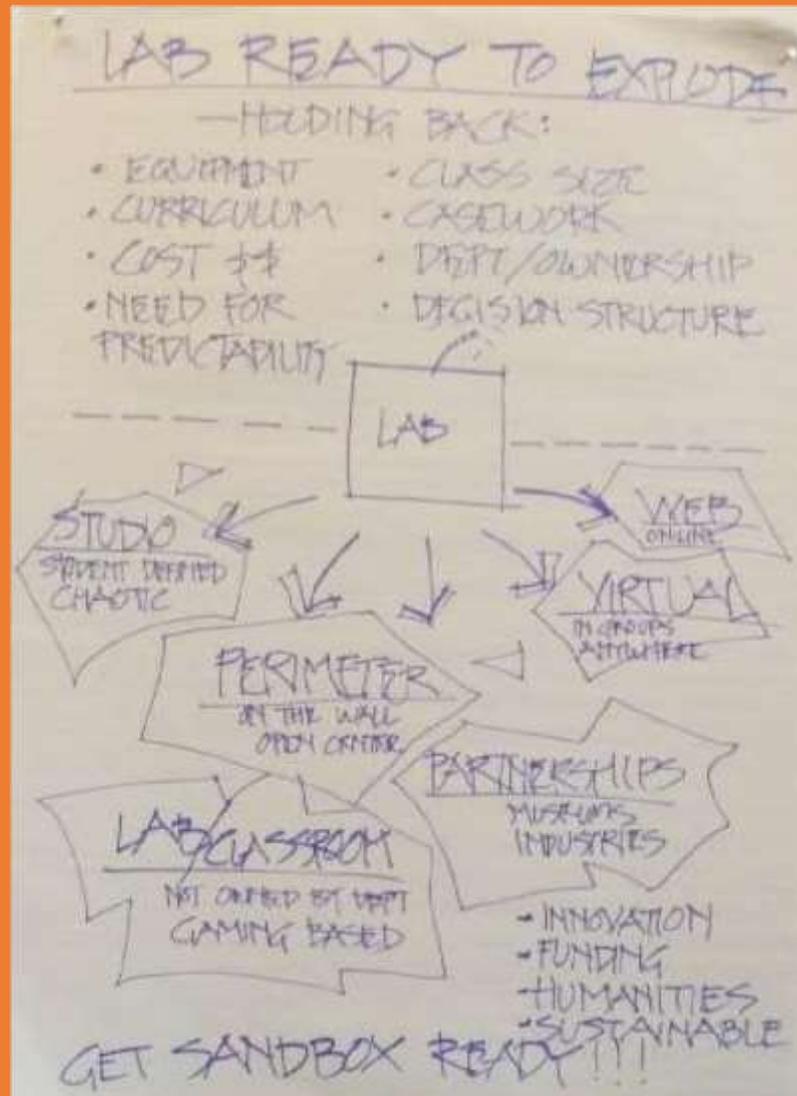
Changemasters take all the input about needs and opportunities and use it to shake up reality a little, to get an exciting new idea of what's possible, to break through the old pattern and invent a new one.

—Norman Fairclough. *Critical Discourse Analysis: The Critical Study of Language*. Taylor & Francis, 1995.



... resistance to change is human and has been confronted successfully in numerous other settings. The study of individual, organizational, and cultural change is a sophisticated field that can inform the design of transformation strategies....

—Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics. President's Council of Advisors on Science and Technology. February 2012.



What will the lab of the future be:

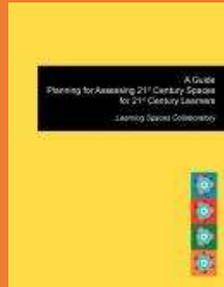
- A student-directed studio?
- A place for lab/classroom gaming?
- A venue for new connections to the humanities and the arts?
- A point from which to connect to collaborations within and beyond the campus?

WHAT DO WE WANT OUR
LEARNERS TO *BECOME*?

WHAT EXPERIENCES MAKE THAT
BECOMING HAPPEN?

WHAT SPACES ENABLE THOSE
EXPERIENCES?

HOW DO WE KNOW?



For most of the 20th century, learning had focused on the acquisition of skills or transmission of information or what we define as “learning” is about. ... we want to suggest that the 21st century requires us to think of learning as the practice of becoming over and over again. ...to embrace change and focus on becoming as central and persistent elements of learning.

—Douglas Thomas & John Seely Brown. “Learning for a World of Constant Change: Homo Sapiens, Home Faber & Homo Ludens revisited.”

2015 AIA Conference

WE HAVE NOW LOST OUR
STATUS/EDGE AS THE #1
TEACHING & LEARNING ENVIRONMENT
IN THE WORLD.

WHAT IF WE CREATE A
LEARNING ENVIRONMENT THAT WILL
SIGNIFICANTLY SHAPE
FUTURE LEADERSHIP TO TRANSFORM
THE WORLD?

5 HOW DO WE CONVINC
OUR CLIENTS TO EMBRACE
CHANGE AND UNDERSTAND
ITS IMPLICATIONS?

HOW DO WE CONVINC
EDUCATORS TO THINK BRAVELY
AND BROADLY ABOUT THE
LEARNING ENVIRONMENT?

5

5
LEAD
BY
EXAMPLE

4

← I

IS THAT
OUR JOB?
5

4

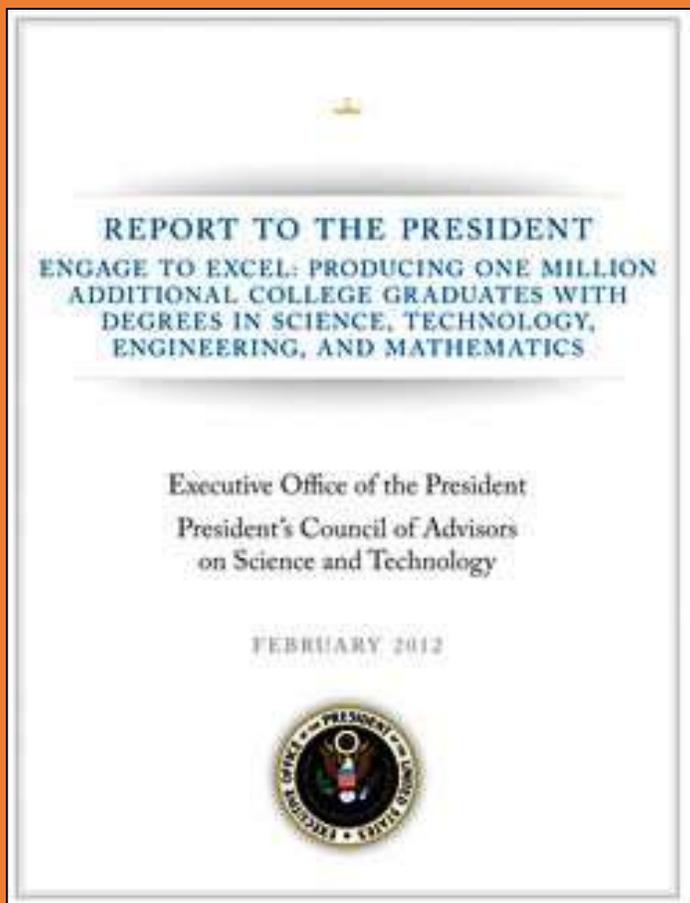
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is changing
everything
needed!

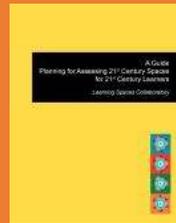
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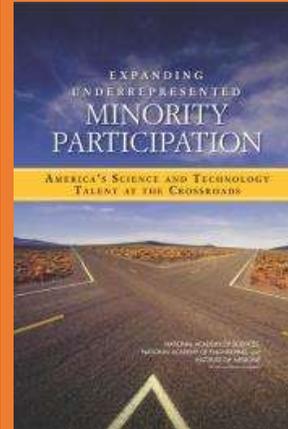
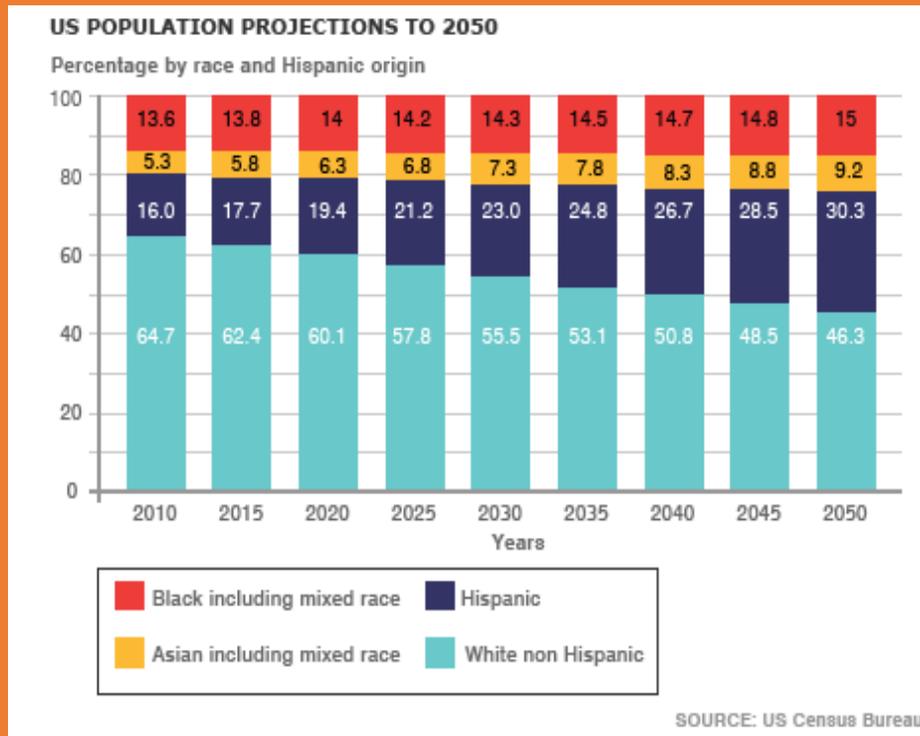
Research indicates that...compared with students in traditional lectures, students who play an active role in the pursuit of scientific knowledge learn more and develop more confidence.

—Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics. President's Council of Advisors on Science and Technology. February 2012.



What do we want our students to become?

- Fearless, confident, independent learners who don't shy away from intellectual challenges
- Effective collaborators who embrace team work
- Good moms and dads, good citizens, politicians, bankers, voters, doctors, etc...people have a real understanding of science and scientists.



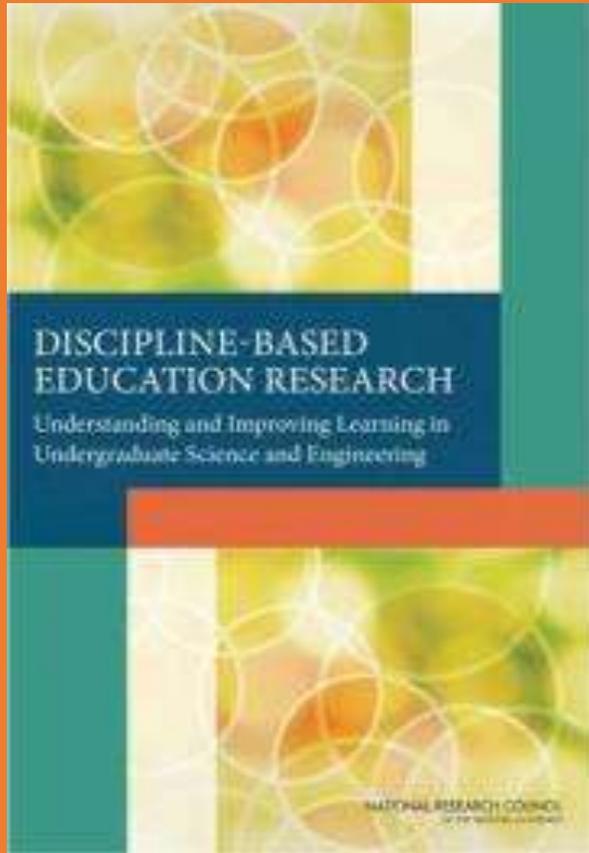
Success may also hinge on the extent to which ... students participate in activities—such as peer-to-peer support, study groups, social activities, tutoring, and mentoring programs—that can promote academic success and social integration.

—National Research Council. *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads*. Washington, DC: The National Academies Press, 2011.



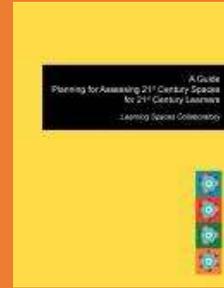
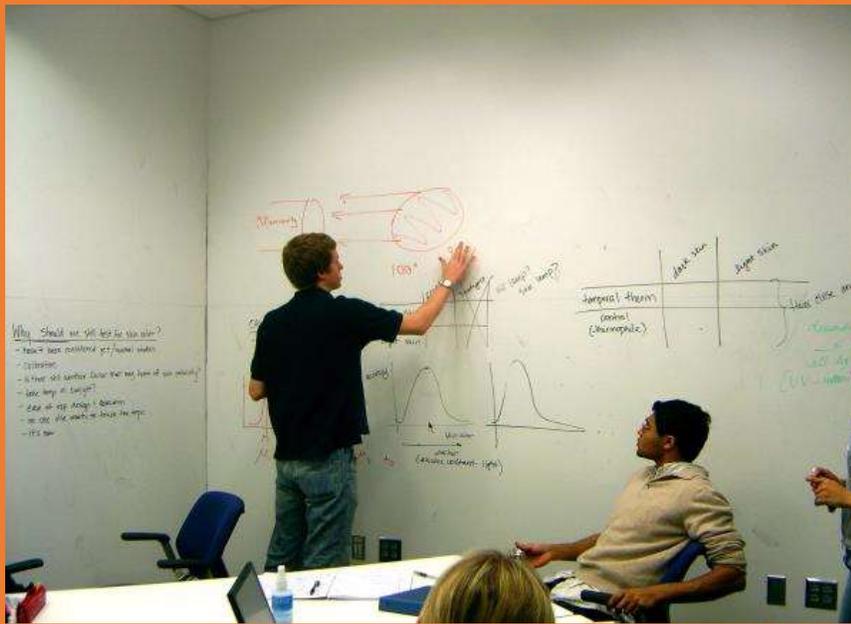
How will we know?

- Improvements in retention and persistence within the class, within the major, and within the university
- Improved class performances in the present and subsequent courses
- Spontaneous and enhanced group formation and study groups
- Observation of signs of self-assessment and personal responsibility for learning
- Growth in community and collegiality through enhanced enrollments in discipline specific clubs.



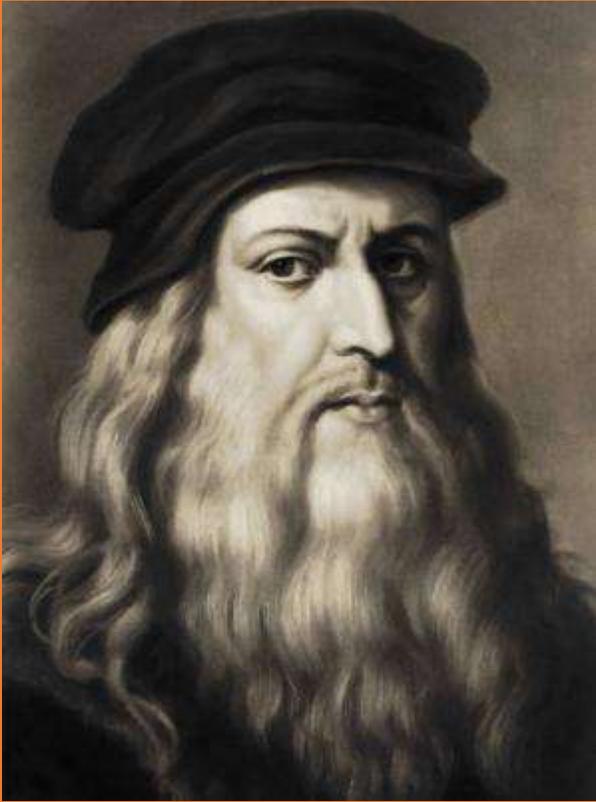
Problem solving] ...is required whenever there is a goal to reach and attainment of that goal is not possible either by direct action or by retrieving a sequence of previously learned steps from memory. That is, during problem solving the path to the intended goal is uncertain.

--National Research Council. 2011



What spaces enable those experiences:

- Authorable, responsive, flexible spaces
- Spaces that invite the articulation and representation of provisional ideas and hypotheses
- Spaces that support changing, responsive collective leadership
- Spaces that support rebounding from impasses and failures.



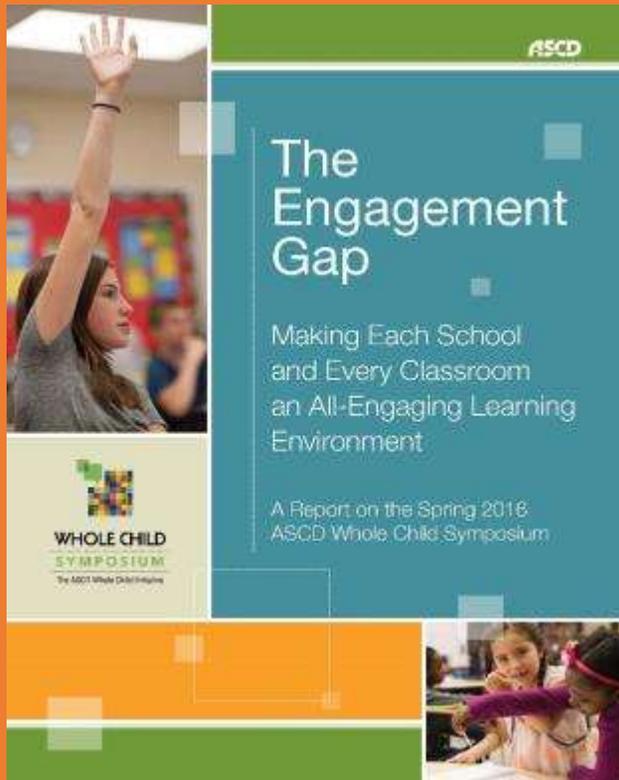
What kind of environment nurtures creativity?

- Freedom, novelty and a sense of being at the edge
- A critical mass of creative people
- A competitive atmosphere
- Mentors and patrons



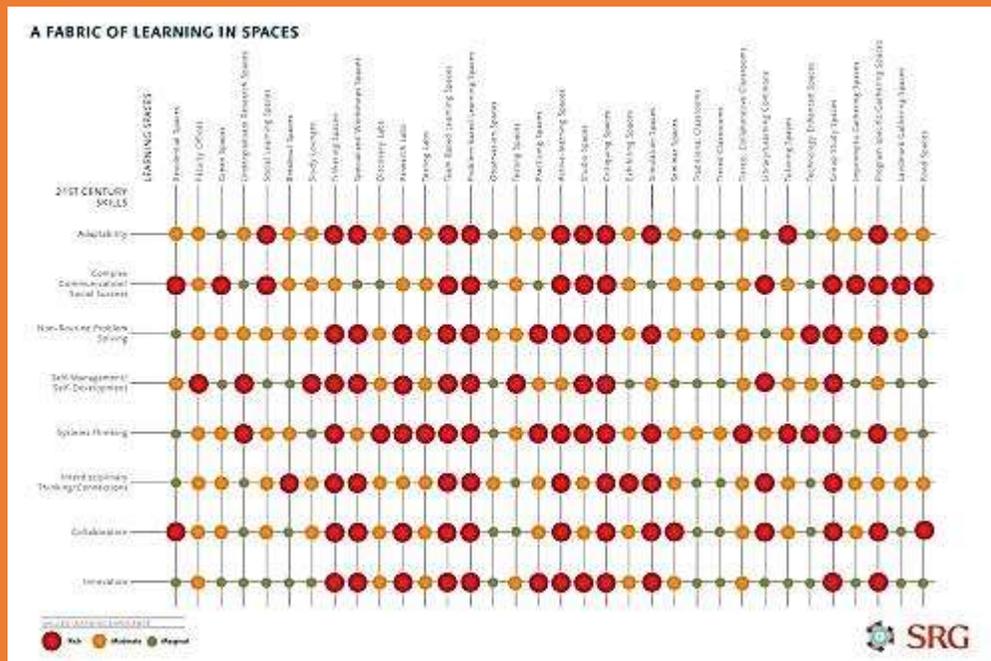
What experiences make that happen?

- Feeling comfortable in an open, accepting work and classroom environment that encourages experimentation and risk-taking
- Having easy access to cutting-edge visual technologies and staff with relevant technical expertise.



Above all, seeking engagement in education requires teachers to take a step back from the expected and to develop—often spontaneously—responses to the occasion.

The most engaging and creative teachers are often those who are prepared to take risks; to try something new; and to listen, reflect, and engage students in the processes of learning and decision making for schools. 2016



Business and political leaders are increasingly asking schools to integrate development of skills such as problem solving, critical thinking, and collaboration into the teaching and learning of academic subjects. Collectively these skills are often referred to as "21st century skills" or "deeper learning."

—National Research Council. *Education for Life and Work: Developing Transferable Knowledge and Skills in the 21st Century*. Washington, DC: The National Academies Press, 2012.



... The [planning] team functioned in a manner strikingly similar to the behaviour we hoped the design would support. We acted and reacted as an interdisciplinary and inter- dependent organism. Discussion and interaction became essential for the successful realization of our concepts. In formulating new strategies, we relied on the input and free exchange of ideas from our colleagues.

— James Collins Jr. “The Design Process for the Human Workplace.” *The Architecture of Science*. Peter Galison and Emily Ann Thompson, eds. The MIT Press. 1999.

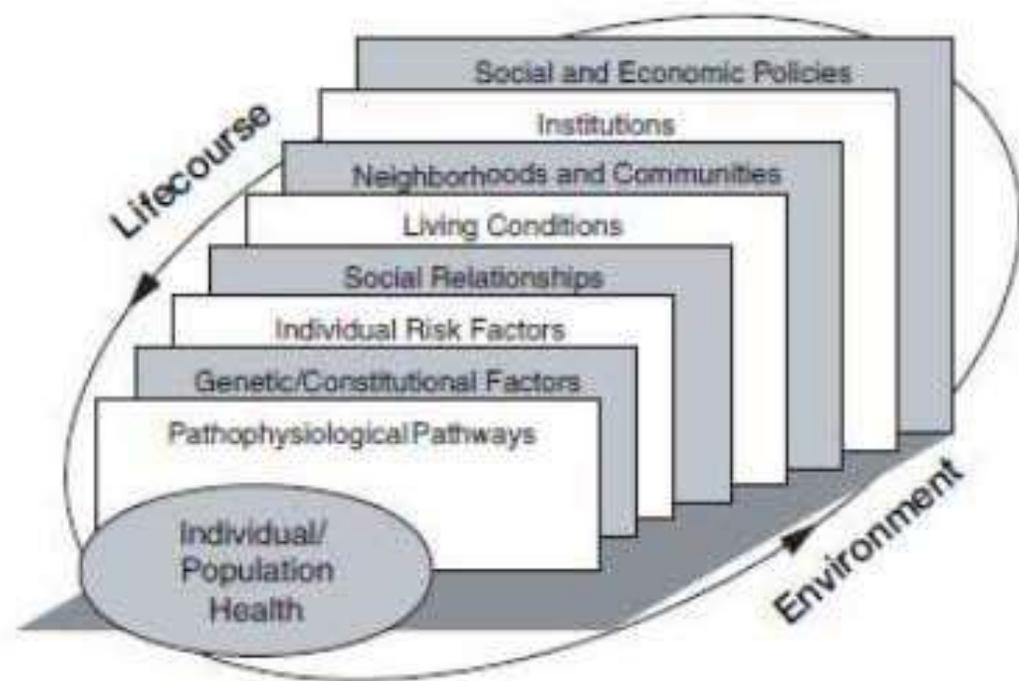
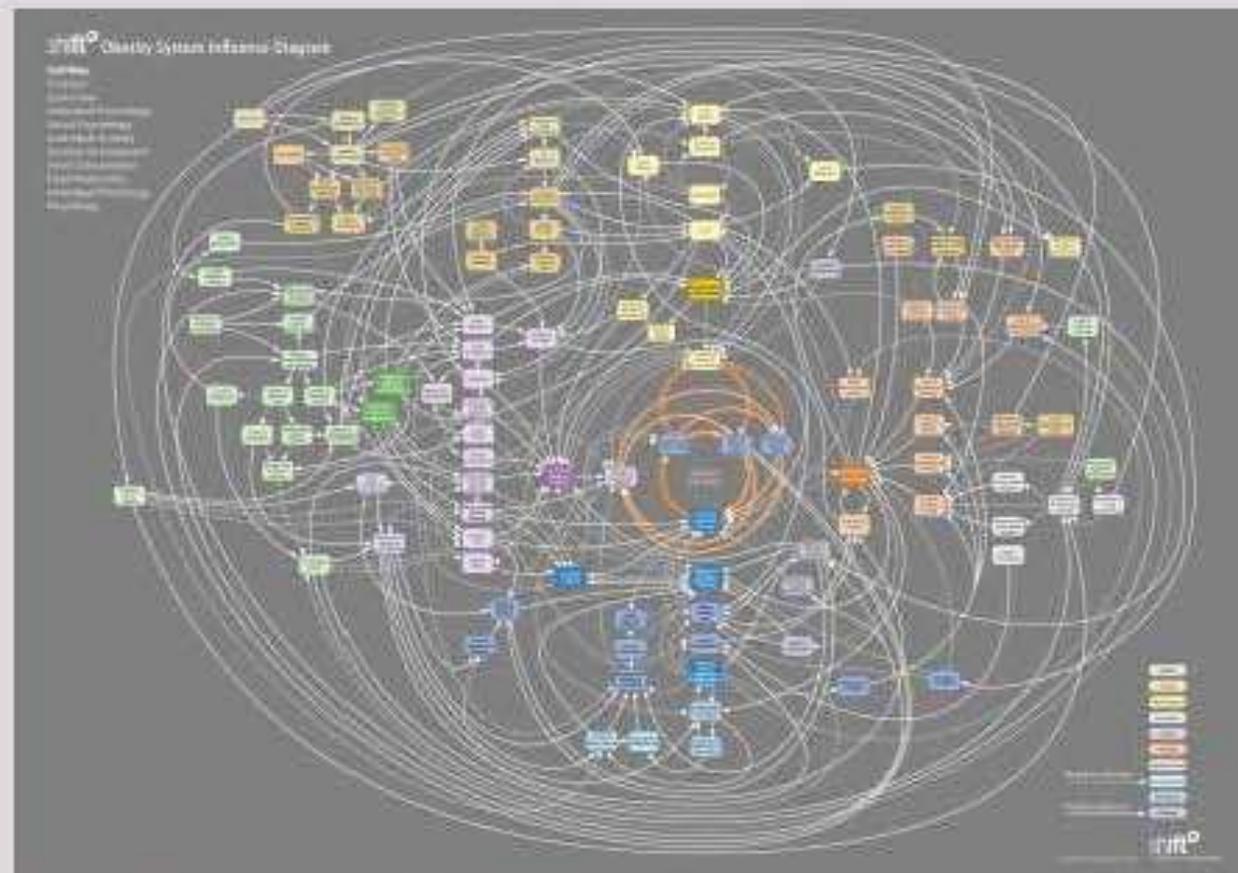


FIGURE A-2 Multilevel approach to epidemiology.
SOURCE: Institute of Medicine (2000).

Multi-level, multi-factorial,
interacting influences

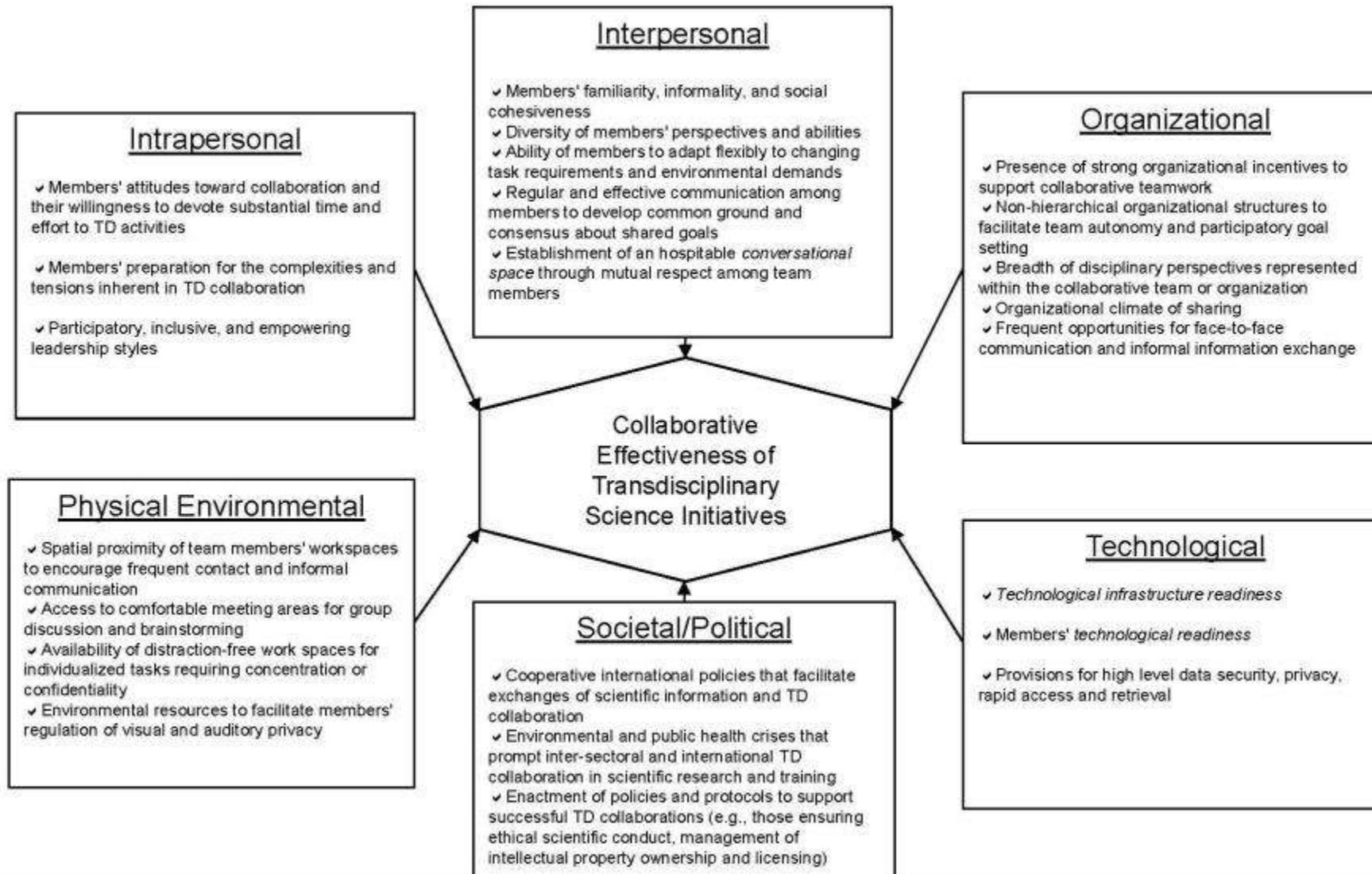
The societal & scientific problems
are complex –



<http://www.shiftn.com/obesity/Full-Map.html>

Collaboration Is Complex

Multi-level Contextual Factors



Transdisciplinary Education Competencies



- Explain **why** the complex, multifactorial nature of societal problems *requires a transdisciplinary approach*
- Describe **how** social, economic, behavioral, environmental, & biological conditions *contribute to social/health outcomes* **using theoretical approaches drawn from diverse disciplines**
- Distinguish the **features of transdisciplinary collaboration**
- **Define problems in a transdisciplinary way and develop shared conceptual frameworks from discipline-specific theories & models**
- **Develop and apply processes** that integrate and promote transdisciplinary perspectives, contributions, & collaborations
- **Apply transdisciplinary solutions** to societal problems using appropriate analytical tools drawn from social work or other disciplines
- Demonstrate the ability to **communicate transdisciplinary research** evidence to key stakeholders to influence policy & practice



Reducing Conflict



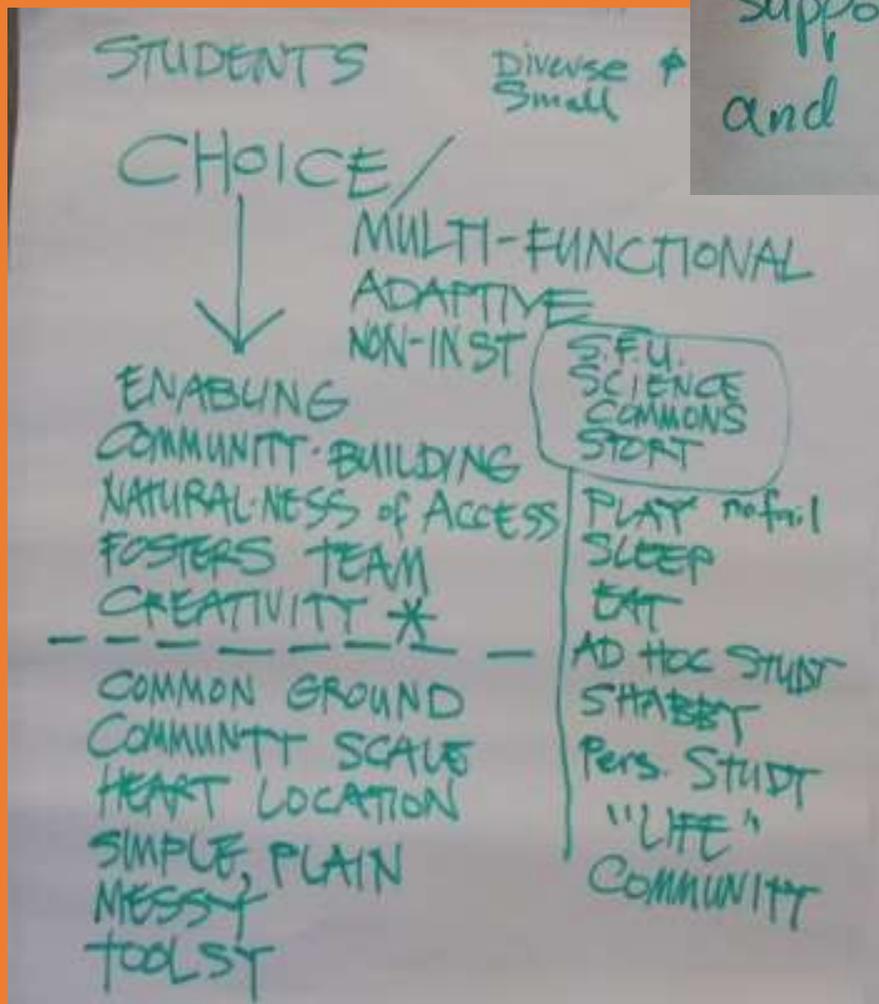
“PRENUPTIAL AGREEMENT” FOR SCIENTISTS

- Offers discussion questions to help collaborators commence a project by anticipating, discussing, and resolving possible areas of disagreement common to many collaborations.
- Helps them define expectations related to goals, roles, products, authorship, etc.

Example Questions:

- What are the expected contributions of each participant?
- What will be your **mechanism for routine communications** among members of the research team (to ensure that all appropriate members of the team are kept fully informed of relevant issues)?
- What will be the **criteria and the process for assigning authorship and credit**?
- When and **how will you handle intellectual property and patent applications**?
- How and by whom will data be managed? How will access to data be managed? How will you handle storage and access to data after the project is complete

How can learning spaces support inclusion, access, and diversity?



HOW SHOULD FACULTY DEVELOPMENT & LEARNING SPACES INTERACT?

Why critical & timely?

- Institutional Δ is hard
f (faculty engagement & ownership)
- cultural Δ is initiated by fac.
- Universities have been unsuccessful @ Δ ing culture
- Faculty ARE the Administrators

How might it be addressed in planning?

- Academic planning must include effective strategies for faculty Δ
- Envision a faculty innovation Lab for T&L.
- Create formal Learning Comm. Task driven meaningful engage net.

1. What is the value of learning in place?
1. the social aspect

2. Does competency training + evaluation work?

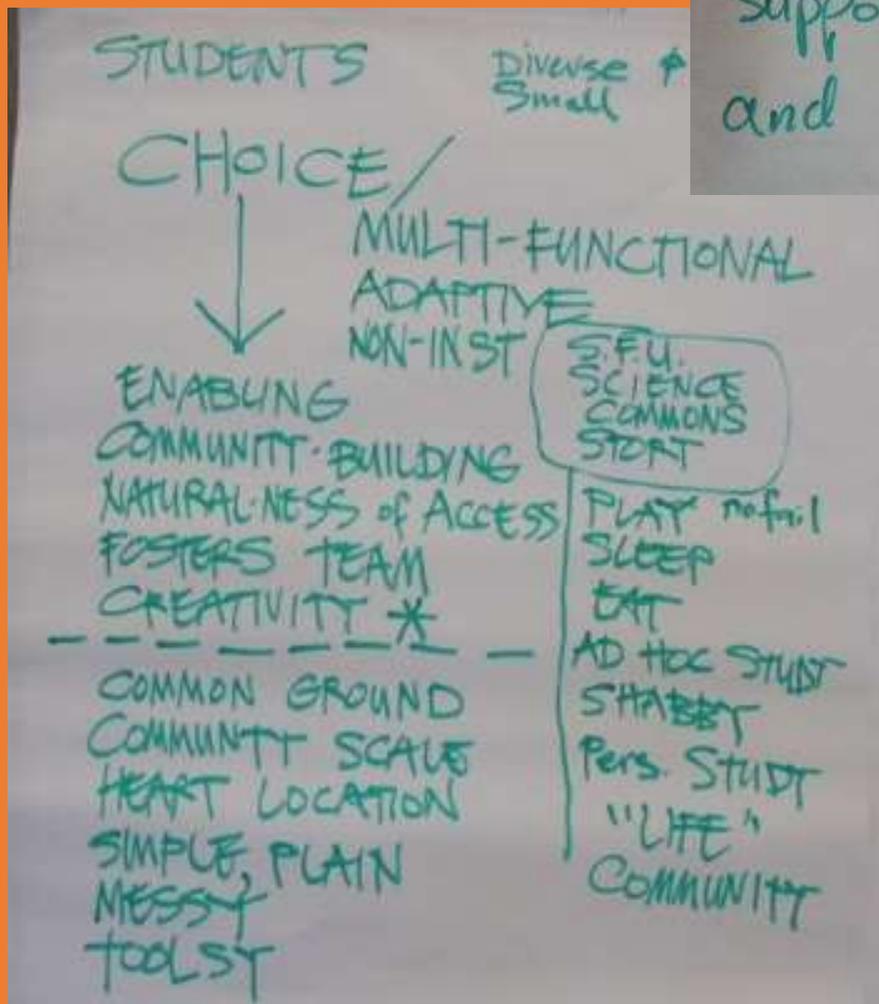
- Discipline specific
- Peer review training more effective
- Faculty are fearful of change because lack pedagogic fundamentals (cause of resistance)
- Reduce faculty overhead + provide support

3. Value proposition of University education

- desirable - wanted
- technical feasibility
- economically viable

4. Are we measuring/assessing outcomes?

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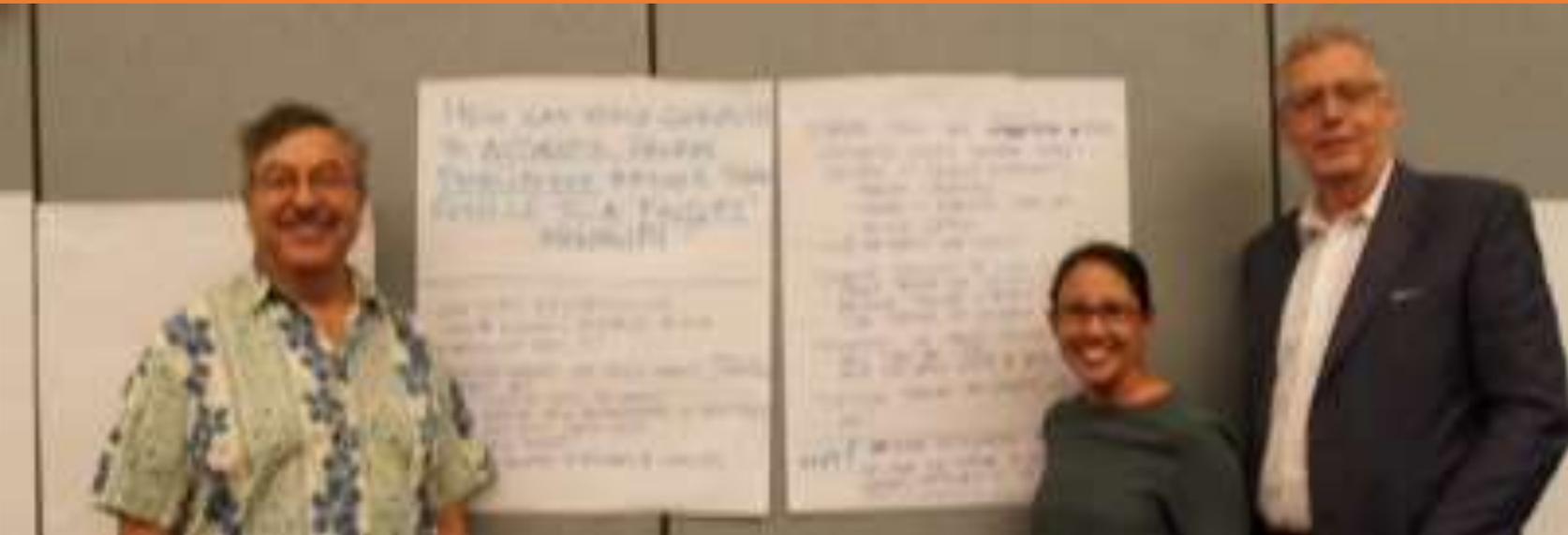
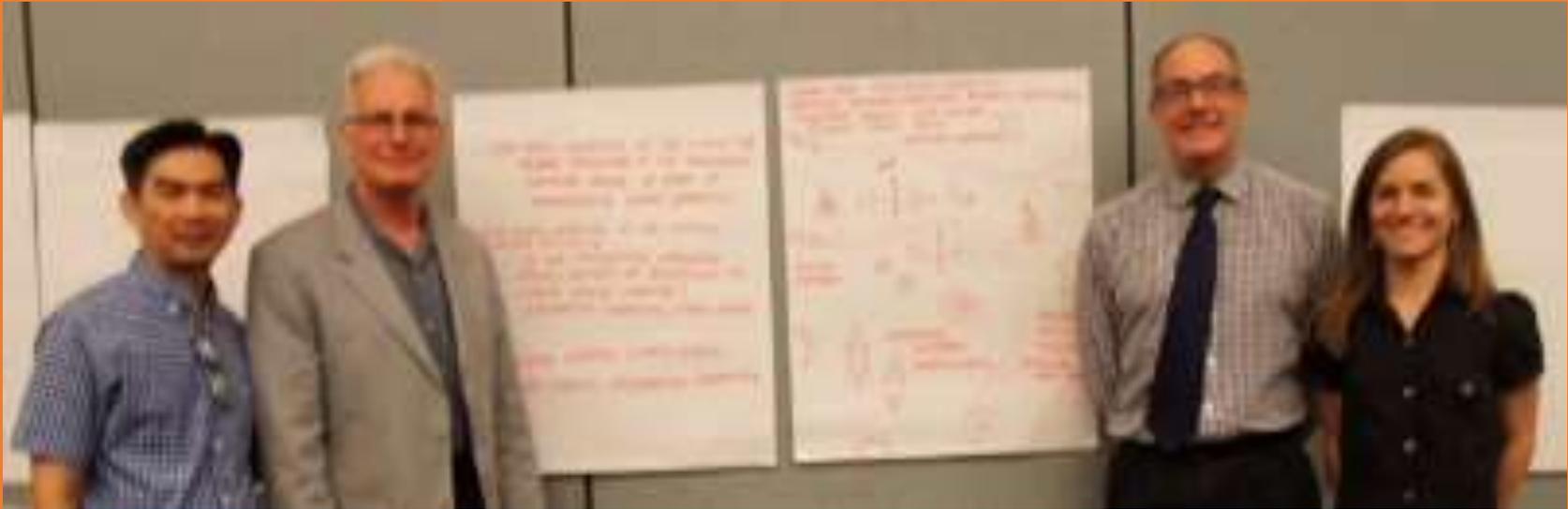
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FLASH LECTURE
⚡ knowledge
in a FLASH ⚡





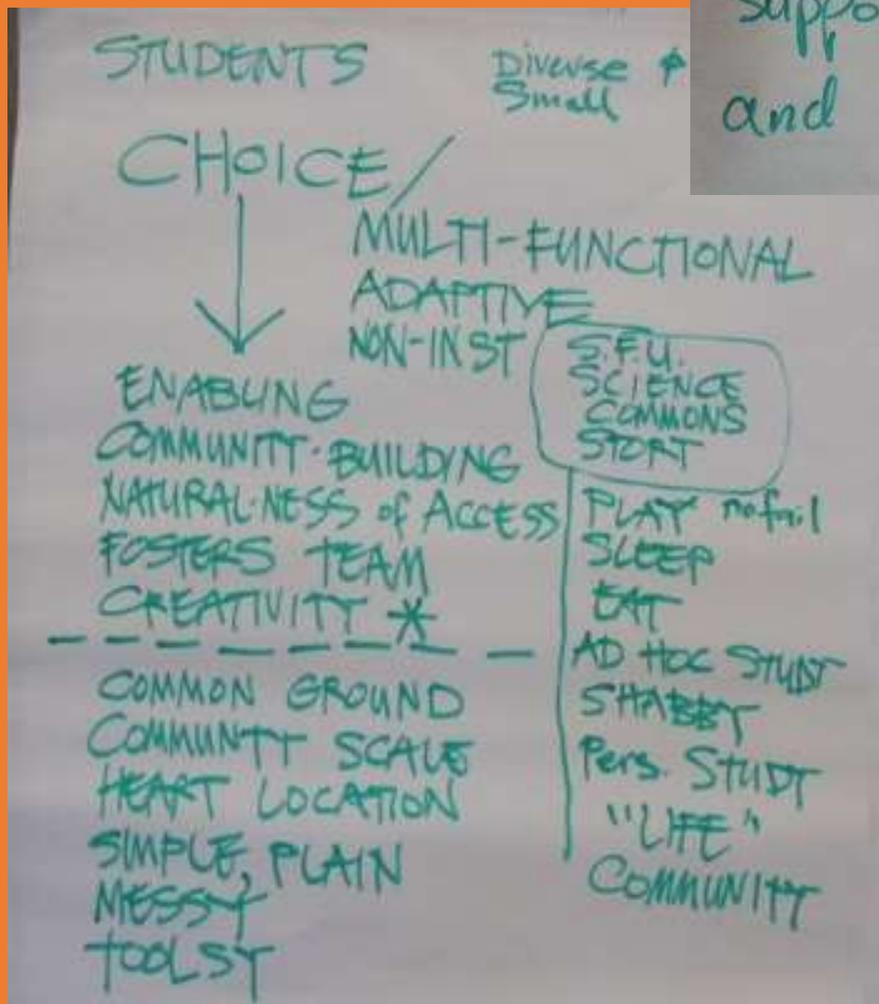
Before



After



How can learning spaces support inclusion, access, and diversity?



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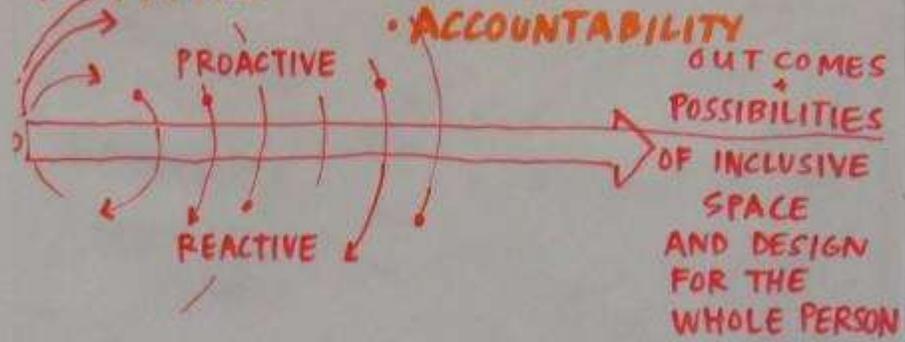
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FACILITATE
ADVOCATE
EDUCATE
AGITATE

TOOLS

- ENGAGE EVERY VOICE
- CREATE SAFE SPACE FOR DIALOGUE
- ACCOUNTABILITY



• CHALLENGES ⇒ OPPORTUNITY

- GENDER
- RACE
- RELIGION
- GENDER
- SOCIAL NORMS
- LEARNING STYLES
- ECONOMIC STATUS
- LIFE EXPERIENCE



