

Promoting Gender Equity in Academic STEMM¹: An Institutional Change Approach

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Institutional Transformation:

- Alters the culture of the institution by changing select underlying assumptions and institutional behaviors, processes, and products
- Is deep and pervasive, affecting the whole institution
- Is intentional
- Occurs over time

Eckel, Hill, & Green, 1998;
American Council on Education

Other conceptualizations, terminologies,
frameworks that get to the same end:
Change in *attitudinal* and *behavioral* norms
of an organization

- Innovation diffusion
- Knowledge translation
- Technology transfer
- Information or research utilization
- Organizational change
- Performance improvement



Using
knowledge
to solve
human
problems
(Backer,
1993)

4-stage model of institutional and personal readiness for transferring research into practice – Simpson, 2002; 2007

- Exposure
- Adoption
- Implementation
- Practice

Incorporates theoretical and industrial research findings from the field of organizational behavior

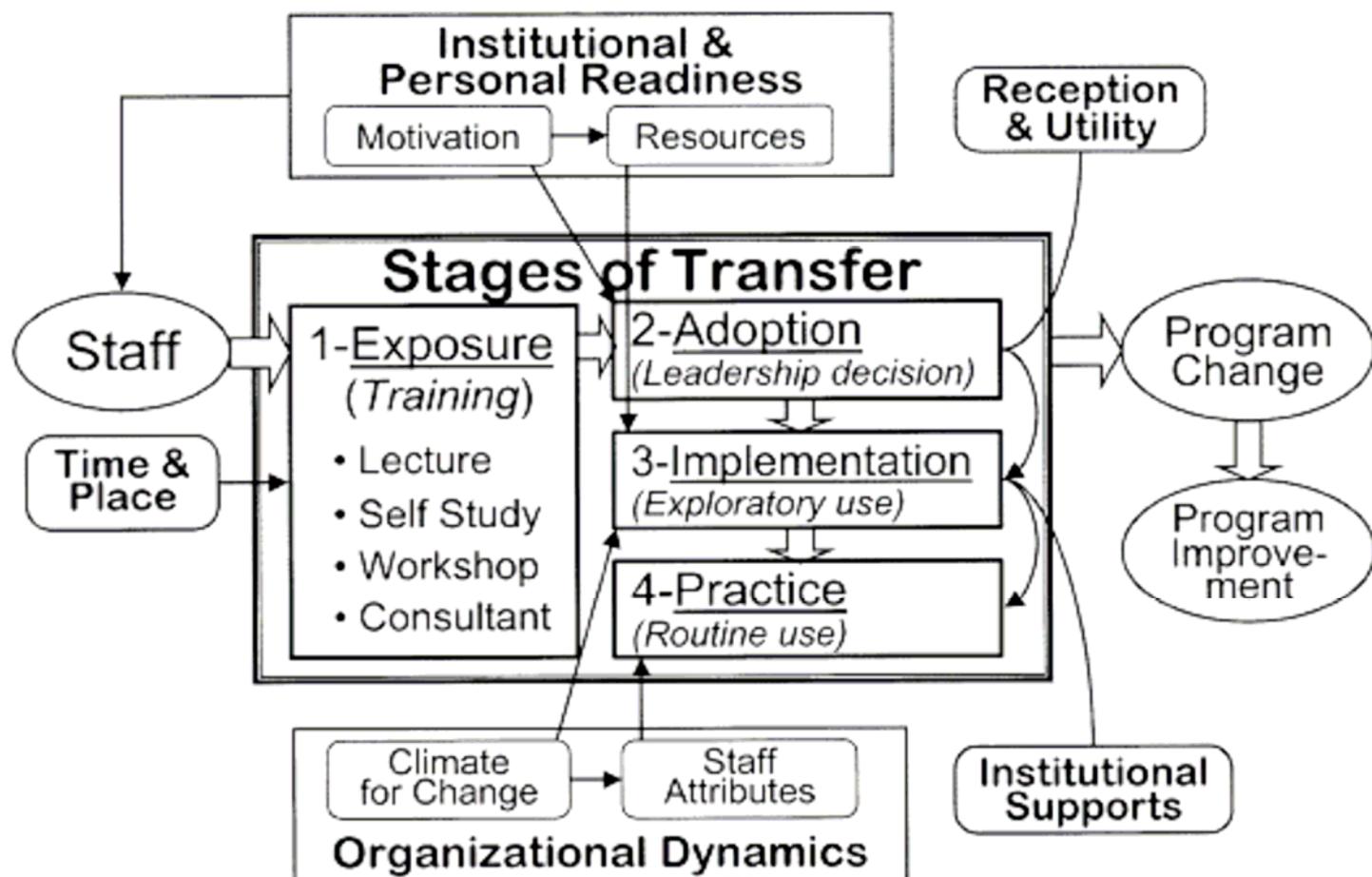
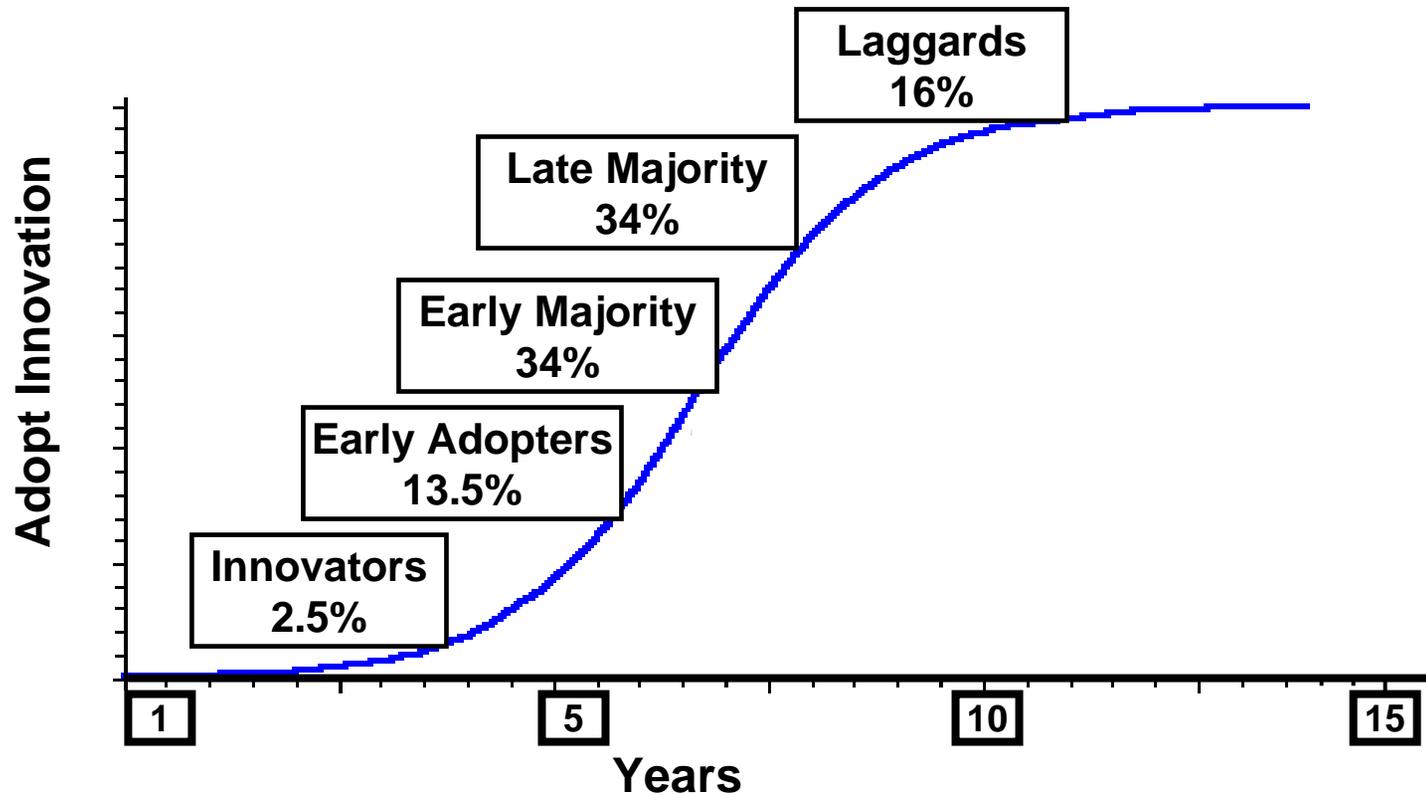


Fig. 1. Program change model for transferring research to practice.

Diffusion of Innovation

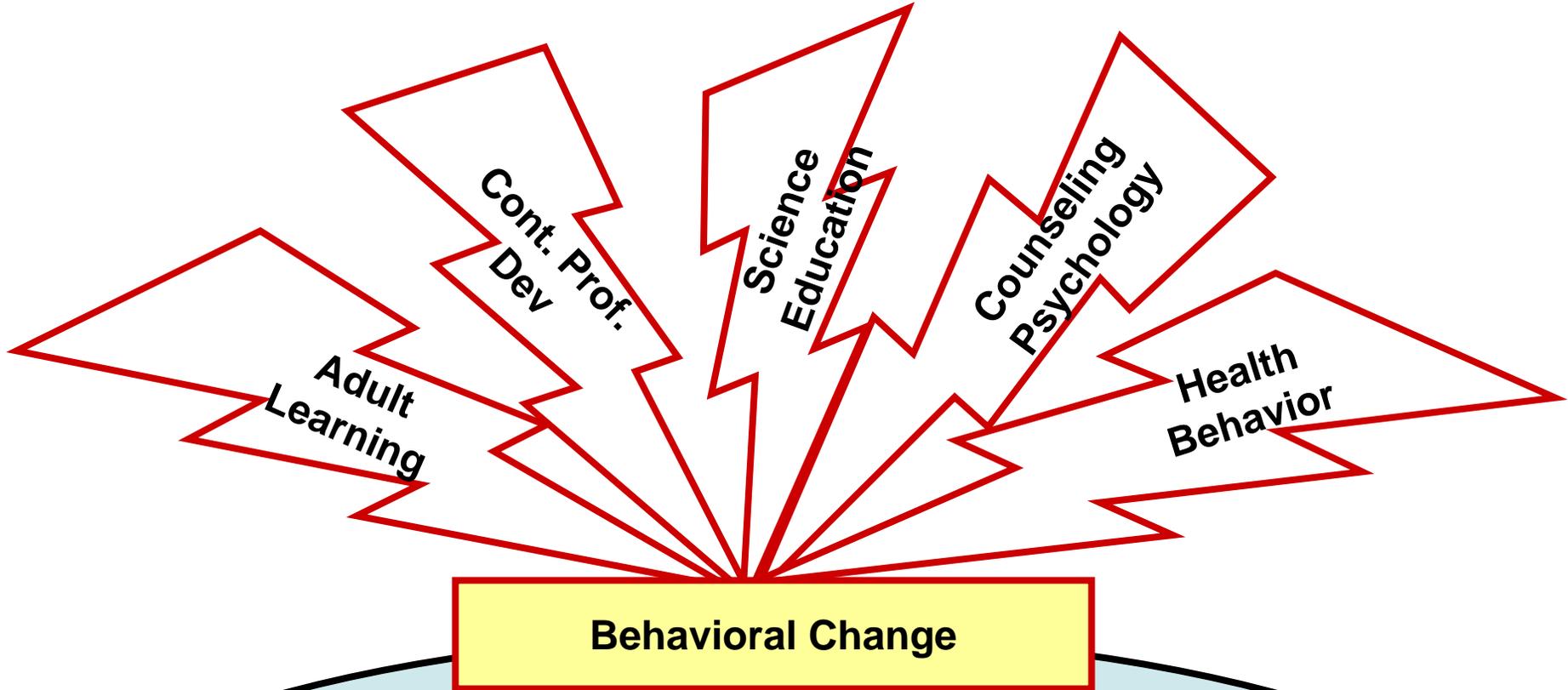
Most innovations have an S-shaped rate of adoption
Gabriel Tarde, 1903; Ryan and Gross, 1940's; E.M Rogers, 1995



Stages of change for smoking cessation and gender diversity

| Stage | Smoker | Diversity - Individual | Diversity- Institution |
|-------------------|--|---|---|
| Pre-contemplation | "Smoking is not a problem and I enjoy it!" | "We've always done it this way, and it seems to work just fine." | No resources committed to solutions; no conversations about need to change |
| Contemplation | "I am worried that smoking is bad for my health and I want to quit." | "To maintain our global economic edge, we must figure out how to invest in our domestic workforce!" | Task force charged with reviewing local data |
| Preparation | "I am going to buy a nicotine patch and quit on my birthday." | "I am reading <i>Why So Slow</i> by Virginia Valian and plan to attend a workshop on diversity next month | A Strategic plan for examining structural biases that may differentially impede women in place |
| Action | "I quit!" | "I have included some research on the ubiquity of unconscious bias in the curriculum" | Excellent women faculty recruited, retained, and advanced to leadership |
| Maintenance | "I enjoy being able to breathe more than smoking." | "I am proud of the advances our school has made recruiting and retaining women." | Institutional data is monitored and made public <div style="border: 1px solid black; padding: 2px; display: inline-block;">Carnes et al., 2005</div> |

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- Institutional change occurs b/c of change in behavior of members of the organization
 - Faculty are the purveyors of culture in academic settings
 - Drive change
 - Maintain status quo
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- Motivation – person has to *want* to change
- Self-efficacy – person must have self-perceived ability to act in new way
- Positive outcome expectations – person must believe that his/her new actions will result in desired outcome
- Deliberate practice

Progressive movement toward habitually *acting without bias (and feeling good about it!)*

Motivation to respond without prejudice¹

Low External
Low Internal

High External
Low Internal

High External
High Internal

High Internal
Low External

Stages of change – health behaviors²

Precontemplation ► Contemplation ► Preparation ► Action ► Maintenance

Adult learning^{3,4}

Unconscious
Incompetence

Conscious
Incompetence

Conscious
Competence

Unconscious
Competence

1. Plant & Devine, 1998
Devine, 1989
2. Prochaska & DiClemente, 1984
Carnes et al., 2005
3. Howell, 1982
4. Bandura, 1977

Gaps in research landscape in academic gender equity

- Lack longitudinal follow-up
- Fail to address deep social and cognitive root causes of bias
- Lack a control group
- Include only undergraduate students

UW-Madison Proposal

- Group-Randomized Controlled Study
- 90 departments – 45 pairs
 - Randomized to intervention or control
- Intervention = Bias Literacy Workshop
 - Faculty invited to participate
 - Built on principles of adult learning
- Measures
 - Implicit Association Test
 - Motivation to respond without prejudice
 - Gender equity self-efficacy
 - Gender equity outcome expectations
- Department climate – *Faculty Worklife Survey*

Workshop Objectives

- Introduce terminology for constructs that underpin gender bias
- Facilitate identification of constructs through application to case studies
- Offer strategies to promote automatic egalitarian thought and action
- Provide the opportunity to commit to a strategy to practice overcoming gender bias



Motivation

- I want to be seen as egalitarian
- I want the U.S. to remain competitive a global knowledge-based economy
- I don't think UVA can be excellent without diversity in today's world
- My Dean says this is important so I will engage in it

Self Efficacy

- I can recognize and name constructs such as Expectancy Bias and Redefining Merit to Justify Prejudice
- I can examine the position advertisement for language with a gender valence
- I can examine the speaker rosters for UVA events

Positive Outcome Expectations

- If I devote time to recruiting and retaining women faculty to UVA, it will be recognized by my Dean as important
- If I remain in contact with my excellent women students, perhaps they could be recruited back as faculty

Deliberate Practice

- I will ask myself whether gender stereotypes are active in my evaluation of applicants
- I will invite the woman scientist whose poster I liked to campus for our speaker's series to increase exposure to women leaders
- I will adhere to my personal "Commitment to Change" by

Questions?