Improving Research Through Mentor and Mentee Training

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Research Mentoring Improves:

Science identity, sense of belonging and self-efficacy

Persistence and retention
Gloria et al, 2001; Solorzano 1993; McGee and Keller, 2007; Sambunjak et al, 2010; Williams et al, 2015; Bordes-Edgar et al., 2011; Campbell and Campbell, 1997

Career satisfaction
Schapira et al, 1992; Beech et al, 2013

Recruitment of URMs
Hathaway et al, 2002; Nagda et al, 1998

Research productivity
Steiner et al, 2002, 2007; Wingard et al, 2004
National Academies of Science
- Report on Mentored Undergraduate Research Experiences
- Revitalizing Graduate Education for the 21st Century
- The Next Generation of Biomedical and Behavioral Researchers: Breaking Through
- Consensus Study: The Science of Effective Mentoring In STEMM

National Institutes of Health (NIH)
- Mentored K awards (e.g. K24)
- National Research Mentoring Network (NRMN)
- New T32 requirements

National Science Foundation (NSF)
- Post-doctoral mentoring plans
- AAAS/ PASEMEN STEM Mentoring 2030 Meeting
- Some INCLUDES Alliance Projects (SCI-STEMPS, IGEN, APLU-CIRTL)

Sloan Foundation
- University Centers of Mentoring Excellence

Howard Hughes Medical Institute and Burroughs Wellcome Fund
- Mentor and mentee training for the Gilliam Fellow and PDEP Programs
How to Create a Culture of Effective Mentorship?

Recommendation #2: Use an evidence-based approach to support mentorship

Program leaders should support mentorship by ensuring there are evidence-based guidelines, tools, and processes for mentors and mentees to set clear expectations, engage in regular assessments, and participate in mentorship education.

Over the past decade, many organizations have made it possible for mentor and mentee training curricula to be developed and tested.
Mentor Training Curriculum

Key elements of mentor training:

1. Process-based: case studies and group problem solving
2. Awareness-raising and reflection
3. A confidential and brave forum to share the collective experience of mentors across a range of experiences
4. Distribute and adapt resources to improve mentoring
Standard Competencies

- Aligning expectations
- Maintaining effective communication
- Addressing equity and inclusion
- Assessing understanding
- Fostering independence
- Cultivating ethical behavior
- Promoting professional development
- Promoting self-efficacy
- Fostering wellbeing (beta)
Adaptations for Career Stage / Discipline

Complete Entering Mentoring Curricula

Curricula are organized by discipline. Each curriculum denotes the career stage of the mentee which whom the mentors work. Click on the magnifying glass to see a preview. Click on the lock to log in and download the curriculum as a PDF.
Train-the-Trainer → National Dissemination

Increase the number of Facilitator Training workshops offered nationally

Increase the number of Trained Facilitators to implement Research Mentor Training

Increase the number of Research Mentor Training workshops

Increase the number of mentors trained

1 → 24 Facilitator Training Workshops

38 → 597 Trained Facilitators

Trained Facilitators
33 → 410 RMT Workshops*

Trained Facilitators
4000+ mentors trained

Master Facilitators
0 → 115 RMT Workshops**

Master Facilitators
3300+ mentors trained**

*Data collected from 2016 Implementation Survey
**Data collected from Internal Tracking

Spencer, K et al (2018). Building a Sustainable National Infrastructure to Expand Research Mentor Training. CBE-LSE 17:3
Center for the Improvement of Mentored Experiences in Research

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Thank you:

Chris Pfund
Angela Byars-Winston