How to Benefit from Successful Mentoring Strategies

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Participants should be able to:

- Articulate why mentoring is important and the consequences of poor mentoring
- Identify some of the core elements/competencies for effective research mentoring
- Describe at least one approach to improving mentoring practices
- Connect to resources for research mentors, mentees and those who want to implement training
Using one’s own experience to guide another person through an experience that requires personal and intellectual growth and development.

Within the realm of scientific research training and career development, the primary research mentor(s) plays a critical mentoring role.
Research Mentors

MENTOR

MENTOR/MENTEE

MENTEE

Principals

Investigators

(Users)

Post-doctoral

researcher

Graduate

Student

Undergraduate

Researcher
Defining Mentoring

- Mastery of Technical & Disciplinary Knowledge in Field
- Mastery of Tacit Skills Needed to Craft Career That Fits One’s Needs & Wants

Know **What** Skills + Know **How** Skills = Career Dev

Research Mentoring

Angela Byars-Winston, 2014
The Importance of Good Mentoring Relationships

- Students being mentoring report fewer non-persistence decisions (Gloria & Robinson Kurpius, 2001)
- Most important factor in degree attainment was positive mentoring experience (Solorzano, 1993)
- Mentoring increases persistence in science, career satisfaction and productivity (reviewed in Sambunjak, Straus and Marusic, 2010)
- The desire to pursue a Ph.D or M.D/Ph.D is influenced by a strong mentee-mentor relationship (McGee and Keller, 2007)
- Mentoring and research training cannot be separated from scientific research for anyone in postdoctoral or graduate student positions and should not be considered as separate objectives (NAS 2005)
- Good mentors foster independence so that mentees can go on to be successful on their own, establish themselves, and differentiate themselves from their mentors (NEJM, 1994)
How do we learn how to mentor effectively?

I learned from making mistakes

From watching my own mentor make mistakes

Trial and error
Research Mentor Training Curriculum

Topics/ Elements/ Competencies:

• Maintaining Effective Communication
• Establishing Expectations
• Assessing Understanding
• Addressing Diversity
• Discussing Ethics
• Fostering Independence
• Developing a Mentoring Philosophy
Key Elements of Mentor Training

• Process-based using case studies and group problem-solving
• Aimed at awareness-raising
• Provides a forum to share the collective experience of mentors across a range of experiences
• Links to resources to improve mentoring
A third year graduate student in my group is adept at performing experiments but is a very slow writer. Last fall, we set multiple deadlines that this graduate student missed, whereas another student in my group wrote an entire thesis chapter, submitted her paper and did experiments. Over winter break, the slow writer had a breakthrough and produced a fairly reasonable draft of a prelim proposal. Although I was pleased to see some progress, I was still concerned especially given the fact that we had to delay the prelim exam because the presentation was not ready. To avoid delays in publications, I have taken the lead in writing the manuscripts based on his work. However, in order to graduate with a PhD, I realize the slow writer must write the dissertation as well as the next manuscripts himself. Setting deadlines for detailed outlines, manuscript/thesis sections, figures, etc., hasn’t worked. Communicating the importance of manuscripts to the scientific endeavor hasn’t worked. Encouragement hasn’t worked. Veiled threats don’t seem professional. Other than being patient, what should we do?

Please raise your hand to share an idea or ask a question. Alternatively type in the chat window.
Research Mentor Training Curriculum

**Topics/ Elements/ Competencies:**

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Originally optimized for biologists engaged in mentoring undergraduate researchers, many of whom were graduate students and post-docs.
Behavior Changes in Mentors

- Discussed mentees' expectations of you, as the mentor
- Oriented to your building
- Considered issues of diversity in regards to mentoring
- Discussed an aspect of mentoring with your colleague
- Reflected upon or wrote your own mentoring philosophy

Curriculum Overview: Mentor Training Adaptation

- **HHMI**
  - undergraduate
- **NSF**
  - undergraduate/grad
- **NIH**
  - postdoc & jr faculty
- **NIH**
  - graduate

- **Entering Mentoring**
  - A Seminar to Train a New Generation of Scientists

- **Physics Research Mentor Training Seminar**

- **Mentor Training for Clinical and Translational Researchers**
  - Christine Pfund
  - Stephanie Voise
  - Pamela Asquith
  - Kimberly Spencer
  - Karin Sleet
  - Christine Schirater

- **Mentor Training for Biomedical Researchers**
  - Christine Pfund, Christopher Bruce, Janet Brandhorst, Jo Handelsman, Kristyn Masters, and Lillian Nanney

Part of the **W.H. Freeman Entering Mentoring Series**

*2nd Edition*
Mentor Satisfaction with Training (n=128)

Was the 8-hour training a valuable use of your time?
- Yes: 88%
- No: 12%

Would you recommend the sessions to a colleague?
- Very Likely: 45%
- Likely: 45%
- Unlikely: 6%
- Very Unlikely: 4%

Mentor Skills Gains (n=124)

Communicating Effectively
Establishing Expectations
Assessing Understanding
Addressing Diversity
Fostering Independence
Professional Development

Before
After

Significant Change in Mentor Self-Reported Effectiveness

Pfund et al. Academic Medicine 2014
Mentor Behavioral Change
N=141; 3 months post training

Intervention
- No change: 3%
- Awareness: 8%
- Intent: 2%
- Implemented: 87%

Control
- No change: 47%
- Awareness: 10%
- Intent: 1%
- Implemented: 42%

Pfund et al. Academic Medicine 2014
Resources to Support Implementation

Available Curricula
Example Compact and IDPs
Build Your Own Curricula
Annotated Bibliography and Reference Handout
Implementation and Recruitment Guides
Resources by Stage of Relationship
Evaluation Instruments and Links
Welcome to Mentor Training

Your ability to mentor well can have huge impact on the overall experience and the productivity of both you and your mentee. While many efforts have focused on helping prospective and new faculty learn skills in grant writing, lab management, and classroom teaching, mentoring has been conspicuously absent. To address this need, we have developed this website which can help you to become a more effective mentor, and more importantly, can help you develop a seminar or workshop to train other research mentors.

We hope you find the materials on this website useful and easily adaptable as you and your colleagues work to become more efficient and effective mentors!

Case Study: Independence
An experienced undergraduate researcher was constantly seeking input from the mentor on minor details regarding his project. Though he had regular meetings scheduled with the mentor, he would bombard her with several emails a day...

Quotes:
“Mentor training is a wonderful opportunity to formally learn and reflect on mentoring. The mentors in my group will no doubt mentor many other students in their careers. I believe this seminar will help them to do so more effectively.”
Watch testimonials from mentors, mentees, and training facilitators.

For Mentors
Find out how you can become an exceptionally effective mentor to the researchers of the future.

For Mentees
Discover effective communication strategies to get the most out of working with your mentor.

For Trainers
Learn more about approaches to training mentors and how to use our training materials.

*Selection

https://mentoringresources.ictr.wisc.edu/
Building Capacity of Trained Facilitators and Reaching a Diverse Audience

Trained ~150 facilitators via train-the-trainer workshops at national venues that focus on training of diverse scholars:

- UW Health Equity Leadership Institute
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
- American Public Health Association
- Annual Biomedical Research Conference for Minority Students (ABRCMS)
- UW-Madison
- American Society for Microbiology

Implementation of Facilitator Training to Disseminate Research Mentor Training for Diverse Scholars (R13GM106445, Co-PIs: Christine Pfund and Christine Sorkness); Support by NSF/ASM Leaders Inspiring Networks and Knowledge Program of the ASM Education Board and NSF Directorate for Biological Sciences (Grant # 1241970)

The American Society for Microbiology
Learning Goals for Undergraduates

Part 1: Students will find a research mentor, write a research project proposal, and begin research.

Part 2: Students will make significant progress on their research project, present their findings in a public venue, and write a mini-grant proposing the next phase of their research.
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• Implementation of Facilitator Training to Disseminate Research Mentor Training for Diverse Scholars (R13GM106445, Co-PIs: Christine Pfund and Christine Sorkness)
Recruitment Strategies

• Effective mentoring saves time and is more rewarding
• Evidence indicates research mentor training is effective
• Even experienced mentors learn strategies for more effective mentoring from the training
• Federal funding agencies are calling for evidence-based mentor training and the use of Individual Development Plans (IDPs)
Draft an Implementation Plan

• What recruitment strategies will you use?
• How many mentors would you hope to train in your first round of implementation?
• When would you implement?
• Who would facilitate/ co-facilitate the training?
• What resources could you leverage to support implementation ($$, admin help, etc.)?
• Will you offer open-enrollment training and/or training that is linked to specific program(s)?
• How will you know if your training has been effective?
• What else do you need to get started?