MENTOR-TRAINEE RELATIONSHIPS

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WHAT IS MENTORING?

Mentoring is a multi-dimensional social process in which an experienced individual (the mentor) shares their knowledge, skills and experiences while providing psychosocial support to another (the mentee) to enable the mentee to enhance their personal and professional growth.
DOES MENTORING MATTER?

Mentoring is associated with improved career outcomes

- Compensation and number of promotions were higher in mentored than non-mentored individuals
- Mentored individuals were more satisfied with, and more committed to, their careers
- Mentored individuals were more likely to believe that their career would advance

DOES MENTORING MATTER?

- August 2007, President Bush signs the America COMPETES act “To invest in innovation through research and development . . .” under which NSF required that ALL grants on which postdoctoral trainees were funded INCLUDE a MENTORING PLAN

- A MENTORED CAREER DEVELOPMENT PLAN (KL-2) is a required component of the NIH CTSA program which was established in 2006

- While NIH does not formally recognize mentoring as critical to the agencies goal, it does provide a number of mentored career development awards focused towards improving the opportunities of trainees for advancement and success in academic research careers (F-series, K-series, T-series, mentored summer research experience-R25, Academic research enhancement-R15) for which detailed MENTORING PLANS are required
DO I REALLY NEED A MENTOR?

Today’s reality in academic medicine and research involves unique challenges at each career stage:

**GRADUATE/MEDICAL SCHOOL:** Academic/medical training, bench science skill development, gaining credentials, creating a publication record, beginning a network

**POSTDOC/FELLOWSHIP:** Scientific/clinical skill development: defining and establishing a research program, grantsmanship, enlarging the paper trail: papers, posters and talks

**FACULTY:** Lab management - gaining small business expertise: funding your endeavor, establishing your scientific & clinical worth, managing your time, managing your employees, helping your students advance, politics - both big and small

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BENEFITS OF HAVING A MENTOR

**Scientific Competence**
- Professional skill development
- Communication skills: written and oral
- Access to resources and information

**Self-determination**
- Gaining a role model
- A touchstone for advice
- Guidance in career planning

**Self-confidence**
- A trusted confidant and teacher
- A cheerleader, fan club and coach

**Evaluation of the environment**
- A guide to the rules of the academic community
- A guide to the institutional rules
- Access to the mentor’s network
WHAT IS MENTORING?

DIFFERENT TYPES OF MENTORING

- Natural mentoring
- Situational mentoring
- Supervisory mentoring
- Formal facilitated mentoring
- Peer mentoring
- Mentee initiated mentoring

NATURAL MENTORING

- Mentor initiated
- Informal
- One person reaching out
- Usually people with much in common
- Generally senior to junior relationship
SITUATIONAL MENTORING

- Mentoring for a specific purpose
- Generally short-term

  - Peer-to-peer mentoring
  - Learning of specific skills
  - Common at all career levels

SUPERVISORY MENTORING

The advisor as mentor

- Very important
- Heavily tasked
- Many hats
- Comfort levels
- Not a given
FORMAL FACILITATED MENTORING

- Structured programs
- Program matches mentor/mentee
- Formats vary
  - individual mentor/mentee pairs
  - group mentoring
- Generally focused
- Accountability
  - formal contracts

PEER GROUP MENTORING

Peer mentoring takes place between someone who has lived through a specific experience (Peer mentor) and one who is new to that experience

- Nationally, women faculty in academic medical centers are strongly represented at junior levels and grossly under-represented at senior and leadership levels
- Mentoring is associated with improved promotion, retention, and job satisfaction ratings

To aid Washington University in improving retention and promotion of women faculty, a Peer Group Mentoring Program was developed (Sharkey, Moscoso, Hershey). With institutional support, the program ran for 2 consecutive years (2010-2012), with junior women mentored by each other with facilitation by senior faculty members.
MENTEE INITIATED MENTORING

**HOW DO I FIND A MENTOR?**

- Have a plan - understand your developmental needs and career goals
- Look for someone with expertise in the area(s) you have identified
- Having identified potential mentor(s), think about the best approach
- Begin an interaction
- Be patient!
Career Planning

- Assess your skills
- Evaluate your choices
- Establish your priorities
- Chart your course
- Prepare for change!

Evaluate Priorities

- Professional priorities
- Family and commitments
- The danger of over commitment
- Time management
- Organize your life!

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WHO ARE MY MENTORS?

- A senior colleague in your department, school or university
- A senior colleague from your professional organization/society
- An individual who is “doing the job” you think you would like
- A successful professional in the non-academic arena
- Try a mentoring site for professionals such as MentorNet (www.mentornet.net)
- A senior technician in your laboratory
- Your colleagues: these are your network
- A family member or personal friend

BE REALISTIC IN YOUR EXPECTATIONS

<table>
<thead>
<tr>
<th>EXPECTATION</th>
<th>REALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentors will make you successful</td>
<td>Success is up to you: your mentor is there to guide, support and encourage</td>
</tr>
<tr>
<td>Mentors define success</td>
<td>YOU define your own success</td>
</tr>
<tr>
<td>Mentors know what I need/want</td>
<td>Your mentor cannot read your mind</td>
</tr>
</tbody>
</table>

Discuss your expectations with your mentor
MENTEE INITIATED MENTORING

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✓ Be patient!

Roles and Responsibilities:

The mentoring partnership is an agreement between two people sharing experiences and expertise to help with personal and professional growth
Roles and Responsibilities.

**Mentors**

- Facilitate mentee’s learning & growth
- Provide skill set
- Provide guidance
- Provide feedback
- Listen, support & encourage
- Evaluate mentee’s plans
- Maintain confidentiality
- Maintain regular contact

**Mentees**

- Be open to new skills & knowledge
- Identify needs & set goals
- Seek guidance & advice
- Accept feedback
- Accept responsibility for actions
- Maintain confidentiality
- Maintain regular contact
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MENTORING CONTINUES . . .

Throughout Your Career

Early career
  Professional training
  First funded project
  First faculty appointment

Mid-career
  Developing national reputation
  Multiple institutional responsibilities
  Emergence of leadership style

Established-career
  Sustaining and renewal
  Institutional leadership
MENTORING FOR CAREER DEVELOPMENT

In addition to training in experimental techniques and increasingly complex analysis methods, mentors are needed to aid in career development

- Laboratory management
- RCR, including animal and human welfare
- Manuscript preparation, submission, review and revision
- Presentation skills
- Looking for the next position
- Funding opportunities and grantsmanship

F/K-awards: the road to independent funding

- Read and follow the guidelines
- Be sure you get an ERA commons user name
- Fill in all the sub-headings
- GRADES do matter, so be sure they are listed from all the institutions you list
- Be sure that MCAT and GREs are noted
- You MUST have publications, not just abstracts, to be competitive

THE PERSONAL STATEMENT

- Be assured that the reviewer’s WILL read this, so be sure it is “selling” you, your ideas, and how this award would help to further your career goals
- This is YOUR application, be sure that what you write, and what your sponsor writes, agree. And be sure they actually put YOUR name down as their trainee
Review of F-awards: what do reviewer’s expect?

F30/31: These are TRAINING awards, and reviewer's heavily weight all aspects of the training plan!

- Mentored awards are expected to include mentoring!
- For pre-doctoral training grants, there is an expectation of TRAINING in NEW experimental skills
- Mentors are also expected to provide training in career building skills
- The training plan should include both didactic training (coursework) and apprenticeship training
- If training will be done under mentors other than the primary sponsor, be sure they WRITE to indicate their willingness to train and the specific areas of training that they will provide

Review of F-awards: The training plan

Where in the application is “THE” training plan?

- The primary training plan is written by the sponsor/co-sponsor and there are several things reviewer's look at in this plan
  - A plan that takes the applicant's background into account
  - A plan that clearly provides career development training
  - A plan that tailors skill development so that new skills are gained and old skills are strengthened – and it helps if those aspects are clearly indicated
- A secondary training plan is written by you under you careers goals and plans for this award section
  - Don’t gloss your career goals – they help reviewer’s determine the relevance of the sponsor’s training plan
  - Be sure you and your sponsor agree!
  - Put in a timeline and make goals realistic if ambitious
- You can also allude to training in your personal statement and in the specific aims
- Adding training goals to the research plan can be effective
Review of F-awards: Training Potential

Note that the apparent lack of COMMITMENT or thought given to training will feed into the overall discussion of training potential even if they are not specifically noted in that box. Weighting differs by reviewer AND panel but it is best practice to prepare for the strictest interpretations.

Review of F-awards: RCR

• Not a scored category
• Will not affect final ranking
• WILL require action if incomplete or if it does not meet criterion

NIH Basic Principles (grants1.nih.gov;grant;guide/notice-files/NOT-OD-10_019.html)

Responsible conduct of research is an essential component of research training. Therefore, instruction in responsible conduct of research is an integral part of all research training programs, and its evaluation will impact funding decisions.
**NIH GUIDELINES** – Be sure you have covered **ALL of the required elements**

**FORMAT:** On-line coursework is NOT enough, and CITI training is a separate requirement. Ethics training is good, but not sufficient.

**SUBJECT MATTER:** ALL of the following areas MUST be specifically noted

- Conflict of interest
- Human subjects, vertebrate animal policies and lab safety (often CITI)
- Collaborative research
- Mentorship relationships and responsibilities
- Peer Review
- Data acquisition, management, sharing and ownership
- Research misconduct and policies for handling it
- Responsible authorship and publication
- The scientist as a responsible member of society & ethics

**FACULTY PARTICIPATION:** The goal is to have research faculty participate in formal training, but noting informal training is also good.

**DURATION OF INSTRUCTION:** At least 8 contact hours of didactic training are required.

**FREQUENCY OF INSTRUCTION:** Frequency of once every 4 years required, more frequent is better. The goal is to provide training at all career levels.

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**Review of F-awards: RCR**

<table>
<thead>
<tr>
<th>Training in the Responsible Conduct of Research</th>
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</thead>
<tbody>
<tr>
<td>Unacceptable</td>
</tr>
<tr>
<td>Comments on Format (Required):</td>
</tr>
<tr>
<td>- The applicant states that he will train in RCR by daily interactions with the mentor, discussions during lab meetings, and by taking the online IACUC training. The proposed plan does not ensure sufficient formal instruction in RCR.</td>
</tr>
<tr>
<td>Comments on Subject Matter (Required):</td>
</tr>
<tr>
<td>- More formal coursework should be taken and which topics should address misconduct in science and other ethical issues, in addition to experimenting with human subjects training, grant writing, authorship, etc. I am personally aware that the applicant's institution provides such a course. It seems that neither the sponsors or applicant are aware of the existence of the &quot;Survival Skills of a Scientist&quot; course. This course initially developed by Dr. Ziegler, is formal, spans over 15 sessions (weeks), and addresses all facets of RCR.</td>
</tr>
<tr>
<td>Comments on Faculty Participation (Required):</td>
</tr>
<tr>
<td>- The applicant does not provide any information about faculty participation, except a general statement about discussions during lab meetings.</td>
</tr>
<tr>
<td>Comments on Duration (Required):</td>
</tr>
<tr>
<td>- Applicant did not indicate the length of RCR instruction.</td>
</tr>
<tr>
<td>Comments on Frequency (Required):</td>
</tr>
<tr>
<td>- As proposed, the applicant meets the frequency requirement for receiving RCR instruction during his current career stage.</td>
</tr>
</tbody>
</table>

All the information is available – there is no excuse for an UNACCEPTABLE rating.
Review of F-awards: The research plan

3. Research Training Plan

Strengths
•
Weaknesses
•

• Given less weight for pre- than post-doctoral applications

• Still the “meat” of the proposal – must match the career and training goals

• Without preliminary data, it is very difficult for reviewer’s to evaluate feasibility and quality

• Do NOT use the same title as an extant grant in your mentor’s lab – if you are working on an extension or side topic of an extant grant make if very clear how your work will differ from funded work of the sponsor(s)

Human subjects/vertebrate animals

• The rules are the same as for an RO1!

• A DSMB is useful for any work where there is the potential for harm of human subjects, even if not strictly required

• Be careful on targeted planned enrollment tables
Review of F-awards: Lastly . . .

Not just for genetic engineering Computational models. Large data bases and computer code can all qualify for sharing

### SCORING LEVELS

<table>
<thead>
<tr>
<th>Impact</th>
<th>Score</th>
<th>Descriptor</th>
<th>Additional Guidance on Strengths/Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Impact</td>
<td>1</td>
<td>Exceptional</td>
<td>Exceptionally strong with essentially no weaknesses</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Outstanding</td>
<td>Extremely strong with negligible weaknesses</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Excellent</td>
<td>Very strong with only some minor weaknesses</td>
</tr>
<tr>
<td>Moderate Impact</td>
<td>4</td>
<td>Very Good</td>
<td>Strong but with numerous minor weaknesses</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Good</td>
<td>Strong but with at least one moderate weakness</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Satisfactory</td>
<td>Some strengths but also some moderate weaknesses</td>
</tr>
<tr>
<td>Low Impact</td>
<td>7</td>
<td>Fair</td>
<td>Some strengths but with at least one major weakness</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Marginal</td>
<td>A few strengths and a few major weaknesses</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Poor</td>
<td>Very few strengths and numerous major weaknesses</td>
</tr>
</tbody>
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### MENTORING FOR SUCCESS

We each wear many hats

Take the lessons learned as mentee to your role as mentor

In this partnership, success is shared!
Moving on . . . . .
Reinventing or ending relationships

• Stay aware and keep evaluating
• Be clear about your goals
• Check your communication
• Always thank them for their time
• Be honest with yourself and your mentor
• Be fair: evaluate the relationship
• Don’t burn bridges if there is any way to avoid it!
• If the relationship was successful, acknowledge it

Good mentors

... can help you attain success in your career