

Mentoring Skills for Faculty Who Supervise Medical Students and Residents in Research



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PROFESSIONAL DEVELOPMENT

Session Objectives



- Define the **responsibilities** of research mentors and mentees.
- Recognize the **resources** necessary for effective mentoring.
- Implement strategies for **maintaining effective communication** as a research mentor.
- Implement strategies for **assessing understanding** in a research mentee.
- Implement strategies for **fostering independence** in a research mentee.

Sources



- Many ideas come from an excellent resource for mentors:

<http://www.researchmentortraining.org/intro/index.aspx>

- Research Mentor Training is housed within the Wisconsin Center for Education Research at the School of Education, University of Wisconsin-Madison.
- Additional references provided on last slide

Responsibilities of research mentors



- Guide a trainee's professional development

Responsibilities of research mentors



Guide a trainee's professional development

- Technical skills
- Professional skills
- Networking opportunities
- Research ethics
- Mentor, not friend

Working with:

- administrative offices
- departments
- institutions

Time management

Responsibilities of research mentors



Guide a
trainee's
professional
development

- Technical skills
- Professional skills
- Networking opportunities
- Research ethics
- Mentor, not friend

Scientific
integrity

Ethics of human
or animal
research

Responsibilities of research mentors



Guide a trainee's professional development

- Technical skills
- Professional skills
- Networking opportunities
- Research ethics
- Mentor, not friend

Effective communication

Assessing understanding

Fostering independence

Responsibilities of research mentors

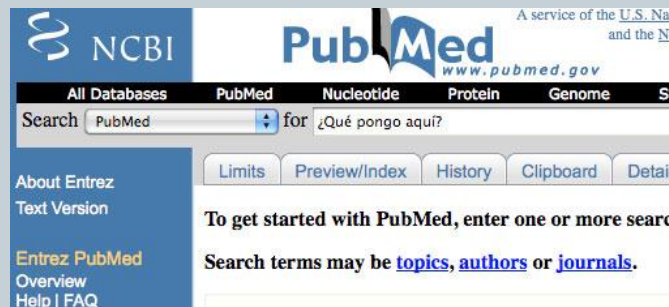


- Guide a trainee's professional development
- Provide an environment conducive to meeting a trainee's (and mentor's) goals

Responsibilities of research mentors

- Provide an environment conducive to meeting a trainee's **goals**

- VTCSOM graduation requirement?
- Residency requirement?
- Publication?
- Presentation?



each trainee



Responsibilities of research mentors

- Provide an **environment** conducive to meeting a trainee's goals
 - Mentorship style (“hands-off” vs. directive)
 - Resources
 - ✦ More on this in a few slides



Image:theleftfield



Image: Robin Davis Design

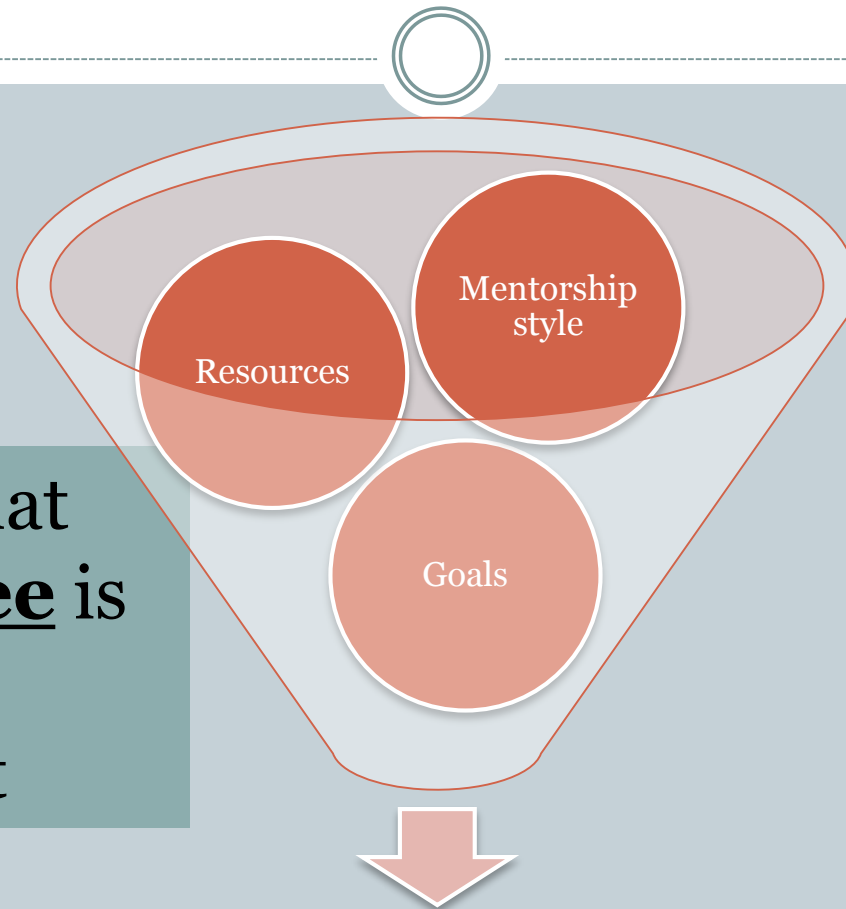
Appropriate **environment** will differ for each trainee and project

Responsibilities of research mentors



- Guide a trainee's professional development
- Provide an environment conducive to meeting a trainee's goals
- Recognize that **each trainee** is a big commitment

Responsibilities of research mentors



- Recognize that **each trainee** is a big commitment

Good fit? Should I commit?

Resources for Effective Mentoring



Time

- Other trainees
- Protected
- Outside of normal working hours

Money

Background

Collaborators

Infrastructure

Resources for Effective Mentoring



Time

- Other trainees
- Protected
- Outside of normal working hours

Money

- Supplies
- Data collection
- Analysis
- Grant writing
- Travel
- Publication expenses

Background

Collaborators

Infrastructure

Resources for Effective Mentoring



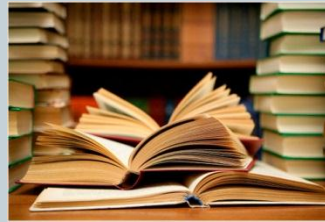
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Money

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Background

- Knowledge of research area
- Commitment to reading literature for new question

Collaborators

Infrastructure

Resources for Effective Mentoring



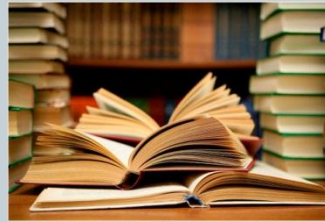
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Collaborators

- Broaden background
- Provide expertise
- Mentorship team

Infrastructure

Resources for Effective Mentoring



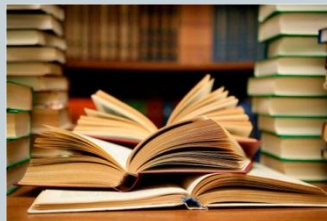
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Collaborators

- Broaden background
- Provide expertise
- Mentorship team



Infrastructure

- Tangible (space, equipment)
- Intangible (e.g., research SOPs, organizational connections)

Maintaining effective **communication**



Expectations

- Specific
- Avoid “unspoken” expectations

How much time?

Milestones?

Behavior?

Level of involvement?

Authorship?

Letters of recommendation?

Job placement?

Maintaining effective communication



Expectations

- Specific
- Avoid “unspoken” expectations



Feedback

- Concrete, actionable, and documented
- Positive and negative
- Prompt

Sooner rather than later!

Goals are not being met

Redirection is needed

Required skills are lacking

Maintaining effective **communication**



Expectations

- Specific
- Avoid “unspoken” expectations



Feedback

- Concrete and preferably actionable
- Positive and negative
- Prompt



Modality

- Texts? Email? Through an assistant?
- Planned? Spontaneous?
- Frequency?

Maintaining effective communication



Expectations

- Specific
- Avoid “unspoken” expectations



Feedback

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Modality

- Texts? Email? Through an assistant?
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Team effort

- Co-mentors
- Collaborators
- Program faculty

Diverse perspectives

Neutral party

Assessing understanding



- How do you know if your trainee understands something?

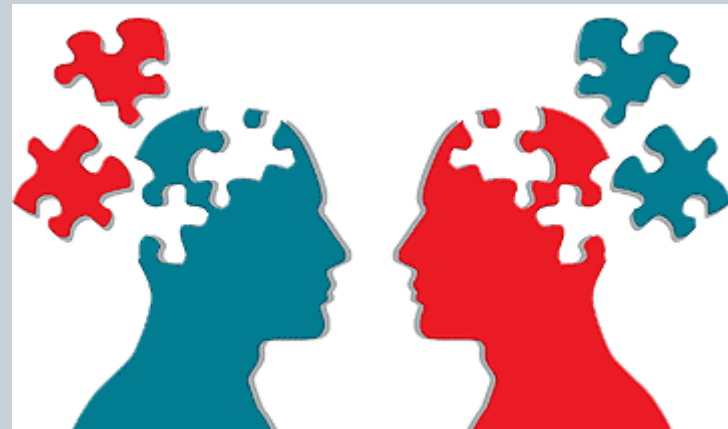
Which question do you frequently use when checking your trainee's understanding?

- 1) Does everything make sense?
- 2) Do you have any questions?
- 3) Is there anything else you need from me?
- 4) What do you hope to accomplish before we meet again?

Assessing understanding



- Immediately
 - Ask trainees to describe in their own words:
 - ✦ the content of a meeting
 - ✦ the goal of the project
 - ✦ the analysis to be done



Assessing understanding

- After reflection

- Written form

- ✦ Summary of a meeting
- ✦ Flowchart of next steps
- ✦ Outline of research goals



- Oral presentation to appropriate group

- ✦ “lab” meeting
- ✦ research interest group
- ✦ collaborators



- Reading the literature

- ✦ Does the trainee identify relevant literature?
- ✦ Can they come prepared with a list of questions related to the literature they’ve read?

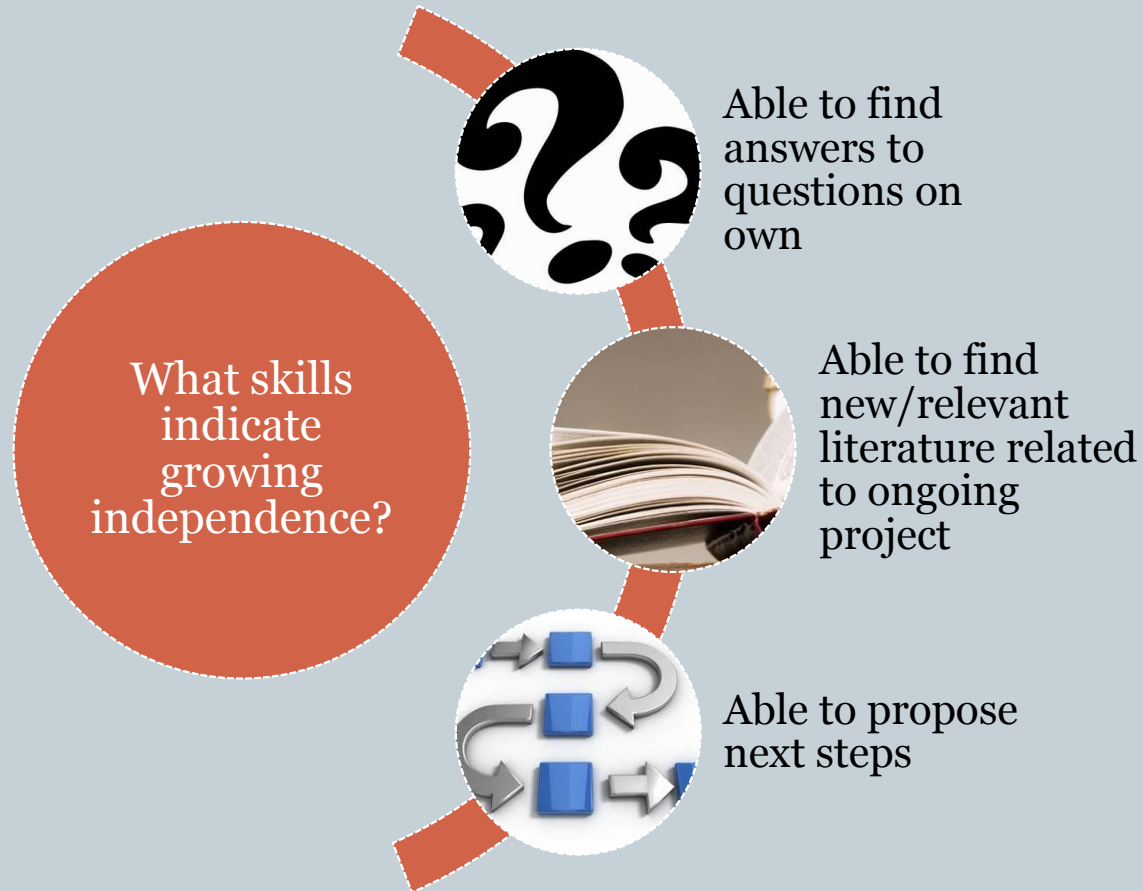


Fostering independence



What skills
indicate
growing
independence?

Fostering independence



Fostering independence



Assess the trainee's developmental level appropriately

Early

- Propose next steps
- Set up meeting with collaborators

Mid

- Identify appropriate conferences
- Outline paper, IRB proposal, grant

Mature

- Write paper with input from mentor and collaborators
- Write funding proposal
- Develop project for a more junior trainee and lead the mentoring effort
- Establish/lead journal club or research interest group



Fostering independence



- How do you foster independence?
- How do you determine WHY a trainee constantly asks for advice or guidance?
- Can you give a trainee too much independence? How do you know?

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References



- <http://www.researchmentortraining.org/intro/index.aspx>
- “Entering mentoring”
https://www.hhmi.org/sites/default/files/Educational%20Materials/Lab%20Management/entering_mentoring.pdf
- Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty, 2nd edition, Chapter 5, “Mentoring and Being Mentored.”
<http://www.hhmi.org/programs/resources-early-career-scientist-development/making-right-moves> (Burroughs Wellcome Fund & Howard Hughes Medical Institute)