Mentoring: Essential for Researcher Success

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What are the essential characteristics of a productive researcher and what role does a mentor play in assuring a mentee acquires these characteristics?
Figure 1: Components of a Productive Research Organization

Productive Organization
- Articles
- Books
- Patents
- Prestige
- Grants
- Awards
- Highly motivated, satisfied faculty
- Artistic accomplishments

A supportive environment facilitates productivity when its features are attended to by leadership and made available to well-prepared faculty.

Institutional Characteristics
- Resources
- Mentoring
- Rewards
- Culture
- Sufficient work time
- Communication
- Clear coordinating goals
- Research emphasis
- Size/experience/expertise
- Recruitment & selection
- Positive group climate
- Assertive-participative governance
- Communication with professional network
- Brokered opportunity structure
- Decentralized organization

Well-prepared individuals go into a supportive environment

Leadership Characteristics
- Highly regarded, able scholar
- Research oriented
- Uses assertive-participative style
- Fulfills critical roles
  - Manager
  - Fund-raiser
  - Keeps goals visible
  - Assures presence of individual & institutional characteristics
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<th>Description of Individual, Institutional, and Leadership Characteristics That Facilitate Research Productivity</th>
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<td><strong>Individual</strong></td>
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<td>1. Socialization: Understands the values, norms, expectations, and sanctions affecting established faculty (e.g., beneficence, academic freedom).</td>
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<td>2. Motivation: Driven to explore, understand, and follow one’s own ideas, and to advance and contribute to society through innovation, discovery, and creative works.</td>
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<td>3. Content Knowledge: Familiar – within one’s research area – with all major published works, projects being conducted, differing theories, key researchers, and predominant funding sources.</td>
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<td>4. Basic &amp; Advanced Research Skills: Comfortable with statistics, study design, data collection methods, and advanced methods commonly used in one’s area.</td>
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<td>5. Simultaneous Projects: Engaged in multiple, concurrent projects, so as to buffer against disillusionment if one project stalls or fails.</td>
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<td>6. Orientation: Committed to both external activities (e.g., regional and national meetings, collaborating with colleagues) and activities within one’s own organization (e.g., curriculum planning, institutional governance).</td>
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<td>7. Autonomy &amp; Commitment: Has academic freedom, plans one’s own time and sets one’s own goals, but is also committed to and plays a meaningful role within the larger organization.</td>
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<td>8. Work Habits: Has established productive scholarly habits early on in one’s career.</td>
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Individual Characteristics That Facilitate Research Productivity

1. Motivation
2. Socialization
3. Content Knowledge
4. Basic and Advanced Research Skills
5. Simultaneous Projects
6. Autonomy and Commitment
7. Orientation
8. Work Habits
To Assess the Motivation of Faculty, We Used the Following Item

I would describe myself as internally driven to:

- Conduct research
- Teach
- Provide patient care

Scale: 1= strongly disagree, 5=strongly agree
Strong Motivation to Conduct Research

Dr. Jonathan Ravdin, Medicine:
“I only recruit faculty who are as interested, motivated and committed to the academic mission as I am.”

Dr. Mark Ascerno, Entomology:
“The key factor is to have motivated faculty who are ambitious.”
Strong Motivation to Conduct Research

Dr. Vernon Eidman, Applied Economics:
“The key factor is hiring very good people who are motivated to do research.”

Dr. Janice Hogan, Family Social Science:
“Passion for research is critical.”
Socialization to Academic Profession
Academic Socialization

The impact of professional values on productivity cannot be underestimated. In highly developed professions, these unwritten rules, concepts, values, and behaviors undergird nearly every action.
Work Habits

- Academically productive during first five years of your appointment
- Set aside large blocks of uninterrupted time BUT also work in small bursts of time (rather than waiting until you have a big block)
- Pursue several projects simultaneously – only two in the beginning
Mentoring facilitates the acquisition and maintenance of many of the essential characteristics of a successful researcher

- Motivation/Passion
- Socialization
- Researcher Work Habits
- External Network
Impact of Mentoring

- “Mentorship/sponsorship in the first years is critical for launching a productive career — Learning the informal network that supports productivity — the inner workings of professional associations and who the productive people are, for example — is critical. . .” (Blackburn, 1979, pp. 25-26)
Impact of Mentoring

“In terms of scholarly productivity...there is no substitute for a sustained relationship grounded in research projects sponsored by one or more experts and supported by continuous resources...When scholarly productivity with funded research is the desired outcome, intense involvement of a protégé with an expert researcher is essential.” (Byrne and Keefe, 2002, pp. 391, 395)
6 Items Which Positively Predict a Highly Research Productive Faculty Member

1. Being driven to do research.
2. Having a formally assigned mentor.
3. Having a vital network of colleagues outside the department with whom to discuss research and education.
4. Being in a department with enough faculty to accomplish the department’s research goals.
5. Number of hours spent on administration.
6. Number of hours spent on research.
Benefits of Effective Mentoring for Mentee – Higher Levels of:

- **Professional socialization and interactions with colleagues** (Corcoran and Clark 1984)
- **Salary levels; and satisfaction with salary and promotion** (Melicher 2000)
A summative message that emerges from this body of literature is that mentoring, when structured and done well, can have a wide-reaching, positive impact on faculty success, especially in research.
men·tor (mèn´tôr)  
noun

from The Odyssey

1. A wise and trusted counselor or teacher. Homer

What is Faculty Mentoring Today

A professional relationship with three essential characteristics:

1. **A defined purpose** - to help mentees successfully acquire the key *competencies* and constructive work *relationships* they need to lead a successful and satisfying career. The specific competencies to be gained are based on the mentee’s existing abilities and career goals.

2. **A collaborative learning approach** that draws upon the knowledge of suitably experienced faculty as mentors and upon the commitment of mentees to develop their professional abilities.

3. **Develops over time** and passes through specific phases. There is more than just a casual arrangement between the mentor and the mentee.

Modified from Ritchie and Genoni, 2002, p. 69
Batman mentor to Robin.
Professor Dumbledore mentor to Harry Potter.
Miss Stacy (schoolteacher) mentor to Anne Shirley (Anne of Green Gables).
Jedi knights, a guild based on mentoring.
Elizabeth Cady Stanton (abolitionist and leader of the U.S. women’s suffrage movement) mentor to Susan B. Anthony (reformer, women’s rights activist).
Robert McNamara (former U.S. Secretary of Defense) mentor to Lee Iacocca (former president of Chrysler).
Maya Angelou (poet, educator, historian, best-selling author, actress, playwright, second poet in U.S. history to recite original work at the Presidential Inauguration) mentor to Oprah Winfrey (producer, talk show host, philanthropist, magazine founder, named by Time Magazine as one of the 100 most influential people in the world).
Abraham Lincoln (16th President) mentor to Ulysses S. Grant (general and 18th President)

There is no limit to mentoring; it is needed and can occur at almost any age.
L-R) Dan Kleppner, David Pritchard, Wolfgang Ketterle.

Kleppner mentor to Pritchard mentor to Ketterle (winner of the 2001 Nobel Prize in Physics). Pritchard also mentored the other two 2001 winners and has mentored a total of five Nobel Prize laureates.
What are the characteristics and behavior of an effective mentor?
Frequently used descriptors of mentors

- Masters
- Experienced
- Listeners
- Sharing
- Supporters
- Advocates / Allies
- Sponsors
- Models
- Advisors
The specific area in which the mentor is helping the mentee to succeed is important

- The specific area(s) adds important nuances to the general characteristics of effective mentoring.
- Areas in which mentors are helping faculty succeed are teaching, research, and service.
- Mentoring is especially important for success in research.
But, not all mentoring is effective
The effective research mentor enhances the mentee’s sense of competence, identity as an academic, and career advancement by assisting him or her to:

1. state his or her research passion as career vision and translate this into a mission, strategic goals and plans, and annual goals and plans.
2. achieve annual goals and plan
3. become socialized and acculturated to the academic profession (values, norms, traditions, ethics, policies), department, college, university, hospital and clinic (if an MD), key leaders, professional associations
4. develop an academic and professional network
5. manage time and career
Mentors are guides. They lead us along the journey of our lives. We trust them because they have been there before. They embody our hopes, cast light on the way ahead, interpret arcane signs, warn us of lurking dangers and point out unexpected delights along the way.

- L.A. Doloz

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