Building a Culture of Research: Recommended Practices

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Building a Research Culture

- Overall (more formal) remarks

- My story
Importance of a Culture of Research

- A culture of research provides a supportive context in which research is uniformly expected, discussed, produced, and valued.

- The increasingly competitive higher education marketplace has made faculty research production vital for success on multiple levels:
  - **Institutional Reputation**: An institute’s reputation is closely connected to research productivity.
  - **Faculty Advancement**: Research productivity is important for faculty hiring and promotion.
The Productive Environment

- Productive faculty share important characteristics on multiple levels:
  - Institutional
  - Leadership
  - Individual
- Institutions must develop relevant characteristics for all three levels
Institutional Characteristics

- “Building a Culture of Research: Recommended Practices” (HanoverResearch.com), 2014

- Characteristics of institutions with high faculty research production

- Three themes:
  - Importance of Collegiality
  - Long-term Goals
  - Already-Present Characteristics

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>Recruitment and selection</td>
<td>Great effort is expended to recruit and hire members who have the training,</td>
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<tr>
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<td>goals, commitment, and socialization that match the institution.</td>
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<tr>
<td>Clear coordinating goals</td>
<td>Visible, shared goals coordinate members’ work.</td>
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<tr>
<td>Research emphasis</td>
<td>Research has greater or equal priority than other goals.</td>
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<tr>
<td>Culture</td>
<td>Members are bonded by shared, research-related values and practices, have a</td>
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<td>safe home for testing new ideas.</td>
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<tr>
<td>Positive group climate</td>
<td>The climate is characterized by high morale, a spirit of innovation,</td>
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<tr>
<td></td>
<td>dedication to work, receptivity to new ideas, frequent interaction,</td>
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<tr>
<td></td>
<td>high degree of cooperation, low member turnover, good leader/member</td>
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<td>relationships, and open discussion of disagreements.</td>
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Institutional Characteristics (cont’d)

- “Building a Culture of Research: Recommended Practices” (HanoverResearch.com), 2014

<table>
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<tr>
<th>Mentoring</th>
<th>Beginning and midlevel members are assisted by and collaborate with established scholars.</th>
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<tr>
<td>Communication with professional network</td>
<td>Members have a vibrant network of colleagues with whom they have frequent and substantive (not merely social) research communication, both impromptu and forma, in and outside of the institution.</td>
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<tr>
<td>Resources</td>
<td>Members have access to sufficient resources such as funding, facilities, and especially humans (e.g., local peers for support, research assistants, technical consultants).</td>
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<tr>
<td>Sufficient work time</td>
<td>Members have significant periods of uninterrupted time to devote to scholarly activities.</td>
</tr>
<tr>
<td>Size/experience/expertise</td>
<td>Members offer different perspectives by virtue of differences in their degree levels, approaches to problems, and varying discipline backgrounds, the group is stable, and its size is at or a above a &quot;critical mass.&quot;</td>
</tr>
<tr>
<td>Communication</td>
<td>Clear and multiple forms of communication such that all members feel informed.</td>
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McKay Orthopaedic Research Laboratory
Institutional Characteristics (cont’d)

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<td>Brokered Opportunities</td>
<td>Professional development opportunities are routinely and proactively offered to members to assure their continued growth and vitality.</td>
</tr>
<tr>
<td>Decentralized organization</td>
<td>Governance structures are flat and decentralized where participation of members is expected.</td>
</tr>
<tr>
<td>Assertive participative governance</td>
<td>Clear and common goals, assertive and participative leadership where active participation of members is expected, and effective feedback systems are utilized.</td>
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Leadership Characteristics

- Leaders “mediate” the impact of the institution

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<td>Scholar</td>
<td>Highly regarded as a scholar; serves as a sponsor, mentor, and peer model for other group members.</td>
</tr>
<tr>
<td>Research oriented</td>
<td>Possesses a &quot;research orientation&quot;; has internalized the group's research-centered mission.</td>
</tr>
</tbody>
</table>
| Capably fulfills all critical leadership roles | - Manager of people and resources  
   - Fund-raiser  
   - Group advocate  
   - Keeps the group’s mission and shared goals visible to all members  
   - Attends to the many individual and institutional features that facilitate research productivity |
| Participative leader                 | - Uses and assertive, participative style of leadership  
   - Holds frequent meetings with clear objectives  
   - Creates formal mechanisms and sets expectations for all members to contribute to decision making  
   - Makes high-quality information readily available to the group  
   - Vests ownership of projects with members and values their ideas |
**Individual Characteristics**

- Motivation is the best indicator of productivity for faculty

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<td>Socialization</td>
<td>Understands the values, norms, expectations, and sanctions affecting established faculty (e.g., beneficence, academic freedom).</td>
</tr>
<tr>
<td>Motivation</td>
<td>Driven to explore, understand, and follow one's own ideas, and to advance and contribute to society through innovation, discovery, and creative works.</td>
</tr>
<tr>
<td>Content knowledge</td>
<td>Familiar - within one's research area - with all major published works, projects being conducted, differing theories, key researchers, and predominant funding sources.</td>
</tr>
<tr>
<td>Basic and advanced research skills</td>
<td>Comfortable with statistics, study design, data collection methods, and advanced methods commonly used in one's area.</td>
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Motivation is the best indicator of productivity for faculty

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<th>Simultaneous projects</th>
<th>Engaged in multiple, concurrent projects, so as to buffer against disillusionment if one project stalls or fails.</th>
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<td>Orientation</td>
<td>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>
</tr>
<tr>
<td>Autonomy and commitment</td>
<td>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>
</tr>
<tr>
<td>Work habits</td>
<td>Has established productive scholarly habits early on in one's career.</td>
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Successful institutions provide support to faculty research efforts including:

• Effective Leadership and Clear Goals
• Faculty Training and Support Programs
• Research Centers
• Recognition of Research Production
• Encouragement of Faculty Collaboration
• Balanced Teaching and Research Responsibilities
• Pay is Commensurate with Expectations

These help develop research culture and increase faculty productivity
Effective Leadership and Clear Goals

• Initiating a successful culture of research require clear goals and effective leadership from university and unit administration

• Important actions of “high level” administration in developing a culture of research:
  • Including research culture development as an item on committee agendas
  • Providing research goals and expectations for individual researchers
  • Aligning all levels of the university with the cultural development strategy
  • Making use of participative governing
Effective Leadership and Clear Goals

- Leadership must recognize the limits of administrative action for implementing cultural change.

- Leaders may change policies, but it takes acceptance and enforcement of changed policies over time to change culture.
Training and Support

- Education and funding opportunities help develop a research culture:
  - Mentoring programs
  - Continuing education courses
  - Grant-writing support
  - Research funding
  - Support for advanced degree attainment
Mentoring Programs

- Encourage research-experienced faculty to share expertise

- Mentorship programs:
  - Build departmental research capacity
  - Foster relationships among colleagues for research development
  - Provide recognition of faculty with excellent research skills

Continuing Education

- Provide a formal setting for research training
Research Funding

- In addition to providing support for grant production, institutions may provide more direct support of faculty research:
  - Allocate funds directly to research
  - Adopt sabbatical policy to enable extended protected time
  - Facilitate access to high-class research facilities

Advanced Degree Attainment Support

- Fosters a research culture by facilitating research training, as well as advanced academic credentials for faculty with insufficient scholarly training
Research Centers

- To house the training and support programs mentioned
- Disciplines or units could have their own interdisciplinary research center (maybe after research culture already in place)

Research Recognition

- Strategies include:
  - Publishing a journal to highlight the success of faculty researchers
  - Circulating regular newsletters, memos, or emails with faculty publishing successes
  - Creating faculty awards in recognition of achievements in research
Networks and Collaboration

- Research culture is supported by faculty interaction and collaboration
- Institutions support the development of faculty networks through:
  - Sponsoring faculty participation in scholarly conferences
  - Hosting conferences and symposia
  - Establishing institutional relationships with other universities, professional associations, and government bodies

Time and Pay

- Reduce course/clinical loads to give more time for scholarly productivity
- Establish criteria for pay increases, promotions, and advancement
Faculty Motivation and Ability

To implement cultural change, administrators must tailor solutions to faculty members’ current motivations and abilities
- High motivation will make best use of training and support resources
- Low motivation will benefit most from developing relationships within the unit and larger community
Challenges

- Measurement
  - Universities or units may use the following factors to measure research productivity:
    - Funded research
    - Unfunded research
    - Quantity of publications, grants, and presentations
    - Research impact factors
    - The value of grants/gifts relative to base salary
    - Regularity of being “principal investigator” on a research grant
    - Various bibliometrics
Challenges

- Decrease in Training Resources
  - Preserving research culture and effectiveness in other areas (e.g., teaching)
  - Shifts in resource allocation from teaching/clinical to research may have detrimental long-term effects on institutions with important teaching/clinical missions
Key Findings

- A culture of research requires both institutional- and unit-based leaders to set clear research goals and communicate them effectively.

- Institutions or units wishing to develop a research culture must allocate resources for faculty training and support.

- A developing research culture requires open and collaborative personal relationships among faculty members.

- To implement cultural change, administrators must be prepared to tailor resource allocations based on faculty members’ current motivations and abilities.

- A research culture may take years to develop and, once established, requires regular maintenance.

- Plans for research culture should include trainee involvement.
My Story

- 3 years research as undergrad at Columbia U. (Richard Skalak, Ph.D.)
- Ph.D. at Columbia (Van Mow, Ph.D.)
- Assistant Professor, University of Michigan (1991-1997)
  - First NIH R01 grant (1995); Second (1997)
- Associate Professor, University of Michigan (1997)
- Associate Professor, University of Pennsylvania (1997-2004)
- McKay Lab Director (1997-2015), Vice Chair (2002- )
- Professor (2004- ), Center Director (2006- ), Endowed Chair (2008- )
- Associate Dean (2015- )
Resources

- Location, location, location…, I mean grants, grants, grants
- Start-up
- Departmental support
- Institutional support
- Philanthropy
- Entrepreneurial activities
- And did I mention grants (and not just “NIH R” grants)
Plan and Strategy

- 3-5 year plan for your lab/program and yourself (and this year’s plan too), with regular re-evaluation
- Know who needs to be involved, persuaded, etc (all about the team)
Recruiting

- Location, location, location…, I mean best person, best person, best person
- Need research (and business!) plan
- Need mentoring (at every level, even us endowed chair profs)
Environment and Mentoring

- Individual, Department, School Level: People
- Individual, Department, School Level: Mentoring and training programs and opportunities
- Individual, Department, School Level: Space, Facilities, Resources
- Individual, Department, School Level: Quality of trainees, access
Environment and Mentoring

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Thanks