

Minutes*

**Senate Research Committee
Monday, October 11, 2010
2:45 - 4:00
238A Morrill Hall**

Present: Melissa Anderson (chair), Margaret Catambay, Jerry Cohen, Seung-Ho Joo, Frances Lawrenz, Tucker LeBien, Jennifer Linde, Timothy Mulcahy, Federico Ponce de Leon, LaDora Thompson, Thomas Vaughan, Karen Williams

Absent: Mustafa al'Absi, Arlene Carney, Anna Clark, Paul Cleary, Donald Dengel, Robin Dittman, Demoz Gebre, Toni Leeth, Kola Okuyemi, Lynn Zentner

Guests: Vice Provost and Dean Henning Schroeder

Other: none

[In these minutes: (1) statement to the Board of Regents on the presidential search; (2) National Research Council rankings/ratings]

1. Statement to the Board of Regents on the Presidential Search

Professor Anderson convened the meeting at 2:30 and distributed copies of the draft statement to the Regents on research-related issues that the Committee believes should be considered during the presidential search. Committee members offered a number of comments; following the meeting, the Committee by email vote unanimously endorsed the following letter (between the * * *):

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The Honorable Clyde E. Allen, Jr., Chair
University of Minnesota Board of Regents

The Honorable Linda Cohen, Vice Chair
University of Minnesota Board of Regents

The Honorable Patricia S. Simmons, Chair
Presidential Search Advisory Committee

Dear Regents Allen, Cohen and Simmons:

The Senate Research Committee, like the rest of the University community, eagerly follows reports of the progress toward selection of the next president. With this letter, the Committee calls attention to three critical research challenges that we think the next president will need to address. We recommend that presidential candidates be asked how they will respond to these challenges. To that end, we provide

* These minutes reflect discussion and debate at a meeting of a committee of the University of Minnesota Senate; none of the comments, conclusions, or actions reported in these minutes represents the views of, nor are they binding on, the Senate, the Administration, or the Board of Regents.

questions – one general and one specific in each area – that may be helpful in judging a candidate's approach to research issues that will most certainly arise.

1. Sustainability of the Research Enterprise

According to the National Science Foundation's most recent reports, the University of Minnesota currently ranks ninth in the nation among public research universities on overall R&D expenditures and first among the top-20 universities in the percentage increase in R&D expenditures (www.research.umn.edu/report.html).

Ensuring a stream of financial support for this extensive research program is a critical challenge, particularly in the current fiscal environment. Securing federal funding requires substantial institutional commitment, notably in the form of administrative, technical, and infrastructural support. The state's budgetary challenges and the biennial funding cycle introduce unpredictability that can jeopardize the University's strategic investments. Of immediate concern is the "double cliff" facing researchers, as stimulus funding channeled through both federal research agencies and state support of institutions falls off in mid-2011.

General Question: What steps will you take to ensure the sustainability of the research enterprise at the University of Minnesota?

Specific Question: What steps will you take to address crises, such as the coming "double cliff," facing the University's researchers?

2. The Changing Research Environment

The president of the University of Minnesota must be an effective advocate for research in state/local, national, and international arenas. One of the most important responsibilities is articulating the University's role and position in the complex research environment.

At the state/local level, it is critical for the public to understand that the state's financial well-being depends on the University's contributions to economic growth and innovation. Research at the coordinate campuses and technology-transfer initiatives are important components of the University's role in the state.

At the national level, success in research is increasingly dependent on a university's ability to work cooperatively with other institutions and to support collaborative work among its own departments and centers. The University of Minnesota must have the capacity to respond nimbly to major funding initiatives and to work effectively within complex, national networks of collaborators and competitors. The president needs to understand the changing national environment and ensure that the University is poised to take advantage of new opportunities. One specific challenge is the federal Clinical and Translational Science Award, which will be a major factor in the University's ability to sustain its clinical research programs.

At the international level, research increasingly involves partnerships with researchers from many countries. Some of these projects are very complex. It is important for the next president –

acknowledging the necessity, advantages, and difficulties of international research – to promote the University's work and stature in the international arena.

General Question: How will you articulate and promote the University's research role in the changing environments at the state/local, national, and international levels?

Specific Question: What steps will you take to support clinical research at the University, with or without a Clinical and Translational Science Award?

3. Decisions on Research Issues

In the area of research, presidents regularly face difficult decisions for which they may not have specific expertise or experience. The challenges vary widely: relations with industrial and commercial sectors, researchers' anxiety about soft-money funding, proper acknowledgement of the contributions of research staff including postdoctoral fellows and graduate students, conflicts of interest, compliance with regulations and laws (ranging from human and animal subjects, to toxic materials, to documentation of effort and research procedures, etc.), recruitment and retention of star researchers, the role of research in teaching and outreach, controversial and high-stakes research, and so on.

General Question: Recognizing that presidents often face difficult issues and decisions outside their area of expertise, how do your background and experience relate to problems that arise in the research environment, and how will you approach difficult issues and decisions outside your area of expertise?

Specific Question: How will you handle controversial or high-stakes research issues, such as stem-cell research?

We hope that this letter will prove useful to the Board of Regents and the Presidential Search Advisory Committee as you move ahead with the critical task of selecting the next president of the University of Minnesota. We look forward to continuing the tradition of an open, strong, and productive working relationship with the new administration on issues related to research.

Sincerely,

Melissa S. Anderson
Chair, Senate Research Committee
on behalf of the Committee

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2. National Research Council Rankings/Ratings

Professor Anderson welcomed Vice Provost and Dean Henning Schroeder to provide a report on the recently-released rankings/ratings from the National Research Council (NRC).

Dean Schroeder distributed copies of several pages of data abstracted from the NRC report and began by commenting that the reaction locally to the NRC report has been tame compared to that at some

campuses. In some instances there have been questions about the groupings of departments and disciplines and about whether the denominators in some of the groupings are correct. He said he wished to show today where there could be value in the ratings and ranges and where people may take data from the web to make decisions.

Dean Schroeder first reviewed the variables the NRC used in its assessment: research activity (4 variables), student support and outcomes (5 variables), diversity of the academic environment (5 variables), overall S-rankings ("survey"; 20 variables, weighted based on field-specific faculty opinions of the relative importance of the various program factors), and overall R-rankings ("regression"; based on 20 variables, weighted based on field-specific faculty rankings of actual programs—same variables as the S-rankings).

Dean Schroeder then referred to a table with the rankings of the University of Minnesota programs. He noted that there are a number in single digits and in the double-digit 10s, and those high rankings are distributed across disciplines and colleges. This emphasizes the comprehensive character of the University (as opposed to being a specialty school or a clustering of strong programs), something he said he sees as a positive outcome.

The claim has been made that over 60% of the University's graduate programs ranged into the top 25%. One can say that whenever the range goes to 25, even though the range for a particular program may be 25-60, Dean Schroeder observed. If there are 100 programs assessed in a discipline, it is possible for more than 25 to claim to be in the top 25, which makes the ranges questionable—something the NRC acknowledges. The quality of a program cannot be expressed with one number, and trying to do so conveys a false precision, Dean Schroeder said. Vice President Mulcahy added that because NRC refuses to provide the distributions, which may not be normal, one cannot take the median or midpoint of the ranges as a likely measure of a program.

Dean Schroeder next looked at American Studies (an example he chose). There were 22 American Studies programs ranked by the NRC; the range of rankings for the University's program are 3-14, and it is very high in student support (1-7), which includes percentage of students who receive full support, completion rates, etc.

The most difficult data are the assessment variables, Dean Schroeder commented; he provided them for American Studies as well. They are dated, he noted, because they are for 2005-06, although a program can update them on its own website for those who want more recent data (but the data in the NRC study are not changed). The NRC has indicated, however, that if it receives funding, it will update the figures in two years.

Professor Anderson asked how the assessment variables led to the rankings. There are two ranges, Dean Schroeder said, regression-based and survey-based. The assessment variables are "hard" data. The ranges come from the weights faculty want put on each metric in a discipline. To reflect the broad range of opinions, NRC ran the samples 500 times with different percentages, based on the feedback it received. The S-rankings were result of true faculty feedback. The R-rankings were meant to be a control, but were so different that the NRC published both. The R-rankings favor large programs, whereas the faculty, when asked about the importance of size, assigned it a low weight. That is in part why the S- and R-rankings are so different.

What is a student to do if he or she wants to pick a program based on the NRC results? Dean Schroeder provided copies of pages from the PhDs.org website, which allows one to go away from the NRC data and set one's own priorities (but using the NRC data and variables). One can change the priorities and then see how the program's ranking changes as a result. If he were a student, Dean Schroeder remarked, he would prefer this site to the NRC website. There are other data-mining companies that combine the NRC data and weights with their own. There are web tools that can be used by those who have different priorities from those of the NRC.

Professor Anderson noted that a *Science* article reported that many institutions are manipulating the NRC data to make themselves look as good as they can.

Vice President Mulcahy asked how the University could use the NRC data. What would it value if it used the PhDs.org website? The biggest problem is that the data are five years out of date, Professor Cohen responded. So it may be that the University will not use them at all, Vice President Mulcahy observed.

They can use the data as a trend, Dean Schroeder said, but they cannot be used as a sole criteria to support a program. He said he would like to see the data for all graduate programs; faculty productivity is important for programs, but he would also like to see student productivity data, information on how long they are in the classroom before they conduct more or less independent research or scholarship, and demonstration that they are on their way to becoming critical thinkers. He said he would like to see a discussion on metrics, including the standard ones as well as new ones, that put students in the position of being early-career scholars rather than late-career students.

Vice President Mulcahy agreed that the data by themselves are of limited use. NRC needs to make available the methods it used so programs can demonstrate improvement by using more recent data (they won't be able to do comparative analyses but they could say they are moving in a positive direction). Dean Schroeder reported that NRC has published a 300-page manual on its methodology, so one can find what one needs. It could be of use for programs to be able to say how they have done relative to the NRC data (moved up or down). Dean Schroeder agreed that the NRC data are a starting point from which one can observe trends. Vice President Mulcahy said that in some programs there could have been a miracle that does not show up in the NRC data; in other cases, the numbers for some programs are not good and the data could be used to make decisions. One first would ask if as of 2010 the numbers are still not positive, Dean Schroeder said.

Is there any way the data could hurt the University, Professor Anderson asked? Dean Schroeder said that so far he had not seen any attack on the University by competing institutions. The data could hurt if there were clear trends that needed to be addressed—but they don't. Professor Cohen said the numbers are so difficult to understand that the legislature and the public are totally lost; an institution could pick any number to justify what it wanted. Moreover, Dean Schroeder pointed out, graduate education is not high on the list of legislative priorities—and it needs to get higher because other countries are throwing a lot of money at graduate education at the national level. The data could harm the University if they are used inappropriately, Dr. Mulcahy said. If the claims about the data are not credible, that could do harm.

Professor Anderson thanked Dean Schroeder for joining the meeting and adjourned it at 4:00.

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Monday, October 11, 2010

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-- Gary Engstrand

University of Minnesota