

Minutes\*

**Senate Committee on Educational Policy**  
**Wednesday, April 11, 2007**  
**1:30 – 3:30**  
**238A Morrill Hall**

Present: Richard McCormick (chair), LeAnn Alstadt, Megan Cummings, (George Green for) Gail Dubrow, April Knutson, Guy Merolle, Claudia Neuhauser, Peh Ng, Donna Spannaus-Martin, Craig Swan, Molly Tolzmann, Cathrine Wambach, Douglas Wangenstein, Joel Weinsheimer

Absent: William Bart, Vernon Cardwell, James Leger, Paul Siliciano, Kristen Wendlandt

Guests: Robin Matross Helms (Office of the Provost)

[In these minutes: (1) number of teaching awards per college; (2) Bok's Book, *Our Underachieving Colleges: Diversity*; (3) Bok's Book, *Our Underachieving Colleges: Preparing for a Global Society*; (4) Bok's Book, *Our Underachieving Colleges: Preparing for a Career*; (5) mathematics requirement]

**1. Number of Teaching Awards by College**

Professor McCormick convened the meeting at 1:35 and welcomed Dr. Helms to the meeting to discuss the number of teaching award nominations permitted for each college. This year, he reported, there was a special exemption granted for one college because it had gotten larger as a result of the mergers. Dr. Helms said she would like the Committee to consider the number of awards allowed per college because of the changes in size resulting from the mergers and combinations.

At present all colleges are allowed up to three nominations for the Morse-Alumni (undergraduate) awards, except for CLA, which is allowed six. The Graduate/Professional award limits vary with the size of the college: CLA, IT, CFANS, Medical School, UMD are each allowed 5 nominations; CSOM, CEHD, CBS, Public Health, and Dentistry are allowed up to 2 nominations; all other colleges are allowed 1 nomination (Law, HHH, Nursing, Design, Vet Med).

Dean Green noted that the nominating committees do not receive a large number of nominations; Professor McCormick said he did not have any sense that colleges have had to cut nominees. The problem, Dean Green said, is that small departments do not make nominations—there is not equal access to the awards. Committee members agreed there needs to be a process to help small units make nominations.

Based on the data about the number of faculty and students in each college, the Committee agreed that for Morse-Alumni award, the numbers should remain the same. For the Graduate-Professional award, however, some changes were made.

CEHD and CSOM will be allowed 3 nominations.

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\* 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.

Vet Med, Dentistry, and Pharmacy will be allowed 2 nominations.

All other units would be allowed one nomination, although it was agreed the allocation to the College of Design would be revisited when the Committee is informed about the exact number of faculty in the college. Further attention will have to be paid to the Center for Allied Health Programs, which is not part of any college, as it increases the number of faculty.

It was agreed the benchmark for the future is that if a college has more than 50 faculty, it is to be entitled to 2 Graduate/Professional award nominations.

## **2. Bok's Book, *Our Underachieving Colleges: Diversity***

Professor McCormick recalled that Professor Spannaus-Martin had presented an outline of Bok's discussion of diversity at the previous meeting but that there had been no time to discuss it. He asked Committee members for comments on the issues Bok raised. Professor Spannaus-Martin reminded the Committee that Bok had written about black/white issues and male/female issues.

-- The book could be outdated because there is no mention of Hispanics, who present issues the country and universities have not experienced before; for Minnesota, there is also the presence of Hmong and Native American students.

-- Bok noted that there are many types of diversity; he chose two to examine. There are also many Islamic students; the University rule is that students must inform authorities if they have a religious holiday, but that doesn't work very well for Ramadan, so the University had to scramble to accommodate it.

-- Some programs have not had a lot of women in them (e.g., in IT), and it could be the issues there are similar to those for students of color. Women students have said they feel discriminated against in IT; it may be that faculty numbers make a difference and that fewer women faculty affects the perceptions of women students. Even in the humanities men still predominate among senior faculty; not all vestiges of discrimination against women have disappeared.

-- If one looks at the offices for diverse student groups on the second floor of Coffman Union, it is striking that there is virtually no interaction between them despite the fact the offices are close together. The idea was that they would interact and do joint programming; that hasn't happened, and perhaps Student Affairs should seek to encourage diversity within diversity. But this phenomenon is not surprising; the offices provide a safe haven and represent ghettoization in a positive way. The impetus to desegregation in US schools has decreased in the last 20 years; neighborhood schools are increasing and so is segregation; the emphasis on integration came from an earlier period when the highest goal was that people should live together. That has not happened and probably will not happen, at least to the extent we once hoped; self-segregation is very powerful and built into the process by which people are socialized, and it seems unlikely that it will disappear any time soon. Self-segregation, as long as it is voluntary, is not a problem the way compulsory segregation once was; the latter was the injustice against which the civil rights movement campaigned. But the persistence of segregation in housing and within neighborhoods and towns speaks to the importance of what goes on in the university classroom and the interactions that take place. Integration is still a powerful

shibboleth in the country and isolation of groups must be addressed. The greater problem is with economic segregation.

-- Bok's book talks a lot about classrooms with diversity. The University could do a better job of assisting faculty of color before they go into the classroom that could be full of Caucasian students. That is a different dynamic; there is need for more work with diverse faculty. The same is true for women faculty and women as graduate TAs.

-- What is IT doing to recruit more women into engineering? Many women do not come to the University with the goal of going into engineering; more go into biology or the health sciences. Is IT having any success going into the high schools to increase women student interest in engineering? The key is the high schools or even junior high schools; IT loses women long before they come to the University. IT reaches out to the schools but is up against a lot of cultural barriers that are difficult to overcome. To increase the numbers IT will have to reach into the junior high and elementary schools.

-- A study was done matching men and women who were asked to take the GRE in math. There were two groups for each sex. One group of men and one of women were offered help with the curriculum; the women scored below the men. Another two groups were told the test was very hard and no one was expected to do well; the men and women were tied. The voice that told women to give up, that they don't do well in math, was turned off. The University must be aware of this as it tackles the problem. A study of men and women engineers who had faced failure asked what went wrong; the men blamed something else and the women blamed themselves.

### **3. Bok's Book, *Our Underachieving Colleges: Preparing for a Global Society***

Professor McCormick distributed a copy of his summary of the key points of the chapter.

1. History and Current Situation: since 1945, largely because of Cold War, U.S. became leader in internationalizing higher education; however, while we have done well in training international specialists, most U.S. college students know little of the world--less than peers in most other industrialized nations, and even less in 1986 than comparable American students forty years earlier, at the very beginning of US post-WWII world dominance.

2. Current "Opportunities for Global Education" and "Building Better Programs"

A. Coursework: Barely half of US colleges require even a single course, and of those, 60% require ONLY one course [compare to U of Minnesota: we require one IP course, but as an LE "theme" that only needs to be one-third of a course]. Bok recommends "one good course" about one other culture in depth as an example to help teach "intercultural competence"; adding international components to many other courses a good idea, but one prescribed much more than it's actually achieved.

B. Foreign Languages: Some study required by 73% of colleges now vs. 89% in 1966; 8% of total enrollments since the late 1970s, vs. 16% in 1960s. Has much in common with English composition: instruction done by literature departments with limited interest in language proficiency [NOT true at Minnesota], taught mainly by TAs and adjuncts with little or no training [also not true at Minnesota—with regard to training]; little research has been done on language teaching [also not true--Minnesota has CARLA, Center for Advanced Research in Language Acquisition]. Real proficiency, according to

Foreign Service, demands more time than most colleges can require; whether or not colleges should require foreign language study, they should encourage it, building on existing skills students have in foreign languages, enhancing learning outside of classroom, but above all by improving quality of instruction.

C. Education Abroad: Increasing numbers of students study abroad, and it can be very valuable—if it's for at least a semester [compare Learning Abroad Center [LAC] at Minnesota, with 3-week global seminars meant to give students a first "taste" of study abroad]. But still only 12% of students study abroad, and 70% of them for 6 months or less, and only 20% of them study in non-Western countries. Even in countries most like US, rarely is there "deep engagement" with culture of host country; one-third of students studying abroad have never studied language of host country, and barely 20% of those who have studied it have more than beginning-level knowledge. Seldom coordinated with rest of college curriculum [compare LAC at Minnesota, which has worked hard to find opportunities that fit into specific majors and minors—MSID, for instance]. U.S. lags behind Europe in having students studying abroad integrated in foreign universities. What's needed: students should study for at least a semester; need some form of orientation, including readings on history and culture, before going to foreign country; plus students should be put in as much contact with local society as their preparation permits—home-stays and at least some coursework in language of host country.

D. International students: numbers increasing, but at undergrad level still only 3% of total student body, and most of them are not especially representative of the countries from which they come: they tend to be rich and from the richer nations; they are not recruited for their intellectual talents or special abilities. To improve: recruit more representative applicants for their talents (as opposed to wealth--which means offer them scholarships and financial aid); integrate them into the life of the college--best way is to have them reside with American students. (Another plus U.S. has: increasing numbers of U.S. students with immigrant parents.)

### 3. "Prospects for Progress"

A. The goal must be "intercultural competence"--teaching students to think interculturally (even though we don't exactly know what that entails). Emphasis should be placed on learning a skill--how to explore other cultures—as opposed to learning facts about one or more cultures.

B. Also essential: greater coordination of the disparate opportunities (see above, 2A, B, C, & D) that we now have—as opposed to the current "cafeteria model" that is prevalent. A cafeteria model is bad in general, not just in the areas of international knowledge and intercultural competence; the barriers to greater coordination and cooperation are typical of current "silo thinking" of departments and disciplines.

C. But we should "proceed cautiously"; "only two courses seem essential enough at present to be required of all students": 1) a basic course on America's role in the world, and 2) a course on how to understand another culture to prepare students for a world of increasing contact with other societies ("intercultural competence").

D. And we need to develop "better ways of measuring the extent to which ... campuses are becoming internationalized." Measure outcomes as opposed to inputs: e.g., foreign language proficiency, knowledge of world affairs.

E. He ends advocating "slow, incremental growth" [how appropriate is "slow growth" in intercultural competence for our post-9/11 world?] and finds hopeful the broad consensus that exists for improving "global knowledge." His [somewhat timid/lame] conclusion: "With such widespread support, continued progress, however incremental and slow, seems all but certain to occur."

Given the leadership in languages on this campus, Professor McCormick concluded, what Bok has to say on this subject is irrelevant to Minnesota.

-- In the ensuing discussion, Professor McCormick opened with some remarks he admitted were polemical: he stressed that one big problem for the US has long been a provincialism and ignorance with regard to the rest of the world that has been characteristic of too much of its population, and at the core of these failings is an arrogant and complacent monolingualism that has made the U.S. the laughingstock of the world. Committee members responded with various comments:

-- One cannot learn a language at age 20 and two years of college instruction in a language "is a joke." Students must also learn the culture as well as the language. Language acquisition is like science and math: if it is inadequate in elementary and junior high schools, the students won't acquire them.

-- For a student from a small town a language is a problem; only one may be offered and only for the equivalent of perhaps two years of instruction. In rural Minnesota, schools with strong language programs attract students through open enrollment from neighboring districts. The University's establishment of the two-year requirement had a salutary effect on high schools; they had to find a way to deliver language instruction. It is not clear how far the University can push that, however.

-- It is important to start a language as a child not only because the brain is more flexible but also because the mouth is more flexible. An adult who learns another language may not be able to make all the sounds. The University should insist in state funding for language instruction in elementary schools—it must start there. On the other hand, students can learn later that the US doesn't have the only valuable culture; 20-year-olds can study abroad and take multi-cultural courses and get a new perspective on the world. (The University is fourth nationally in the number—not the percentage—of undergraduates who study abroad; the goal is that 50% of graduating seniors will have a study-abroad experience.)

-- Committee members discussed at some length the virtues (or lack thereof) of requiring only 1-2 years of a language, the need for and usefulness of fluency, the impact on graduation rates if a fluency in a language is required, how combining a year or two of language (in an immersion program) plus a study-abroad experience can be rewarding and educational, and the possibility of getting a taste of language and culture even if one does not become fluent.

#### **4. Bok's Book, *Our Underachieving Colleges: Preparing for a Career***

Professor Leger next led a discussion of the Bok chapter on preparing for a career. His own college (IT), he noted, is a mix of the vocational and non-vocations because the physical sciences are with engineering in the same college, a conjuncture that at the University has been very successful. He distributed a handout containing an abstract of the chapter.

1. Bok's chapter on vocational training is (perhaps) applicable to colleges such as IT, CSOM, CBS, Nursing, EHD, CFANS, Design, etc. Bok defines vocational education as acquiring "practical skills" that are directly useful in the workplace. However, many programs that Bok considers "vocational" actually offer a continuum of subject matter, from the very practical (and trainable) to the very creative and abstract (and NOT trainable directly, but only through fundamentals). The curricula in these programs can best be described as having a "vocational component" and a "fundamental component." Alternatively, programs Bok considers non-vocational (e.g. physics and math) have trainable components (e.g. mathematical methods of physics).

2. The temptation to teach methods in the absence of principles is encouraged by the students much more than most faculty (Leger's observation about engineering). Generally, students complain that we do not teach them how to do things, and spend too much time trying to teach them underlying principles. We explain that this is the only way to foster creativity. Bok advocates an approach that emphasizes principles when he suggests "giving the students a larger view of the professions that goes beyond mere skills training."

Bok's point, Professor Leger said, is instruction should not be concentrated on specifics that will go out of date but rather the fundamentals. This creates a tension with students, who want a job, while the faculty say students must understand the principles. Dean Green wondered if some schools (e.g., MNSCU) teach more "how to" and less of the fundamentals in math and physics, which pleases the students. In order to recruit students, some institutions may need to do what students want; the University, with a lot of applicants, can stick to the fundamentals and the principles. Professor Leger agreed but said faculty must still dispute with students over what should be taught. Like the liberal education requirements, Professor McCormick said, students must be taught the value of that part of their education.

3. 60 % of Arts and Science professors do not think that preparing for a good job is important for undergraduates. However, 75 % of students think it is the most important reason to go to college. 60 % of college seniors are majoring in a vocational program. 33 % are in liberal arts.

4. Research is indeterminate about whether vocational classes help cognitive ability.

5. Coursework can help students discover their interests. However, most frequently, technical majors are chosen based on relatives, friends, or chance.

6. Many schools (almost all in the big 10) integrate some "Introduction to Engineering" course into their program. This is a mandatory course, introducing students into the field in general, and exploring the variety of offerings. The U of MN offers such a course, but it is not mandatory, and it is undersubscribed.

Professor Leger said such courses have been demonstrated to be successful and it could help students significantly.

7. Cross-over courses that teach the moral, ethical, and social dilemmas of various careers may be useful as a bridge from technical training to liberal education. However, Bok notes that most liberal arts faculty are generally not interested in teaching such subjects. We do have a few of these courses

in IT (Energy, Environment, and Society, for example. However, it was introduced and is exclusively taught by an adjunct professor).

Professor Leger said it would be interesting to know of examples in other colleges; these courses are a way to bring other colleges into engineering courses and to enrich the curriculum. Some cross-over courses are designed with this intent but they could be more purposeful and less opportunistic. The idea of the liberal education minor would be a creative way to do this, Professor McCormick commented, and could bring in broader issues in a number of disciplines. Professor Leger noted the engineering accrediting requirements, especially ones that require students to be able to function on interdisciplinary teams and that require an understanding of professional and ethical responsibilities. Many of those courses could be offered by CLA.

8. Students who want to be engineers must major in engineering or one of the sciences (even if they are going to grad school). However, students going into medicine or law can afford to get a liberal education as an undergraduate. But what about those who want to work in management (without an MBA)? Bok says that vocationally trained students have an initial advantage (for about 10 years). Then the situation MAY change, depending on the sector of industry that employs them.

9. Bok states that ". . . vocational programs should not take up so much space in the curriculum that other important educational goals must be sacrificed."

10. Bok's suggestions:

- a. Don't teach competencies that may become obsolete easily.
- b. Use active teaching techniques to teach critical thinking (math 13xx and 23xx).
- c. Offer breadth and perspective – history of profession, role in society
- d. Include capstone project (most engineering programs do this)

11. Engineering

- a. Liberal education courses are disliked by many students and some faculty. Many students simply take the easiest ones (or, in IT, the ones that count for both a core and a theme and fit the schedule). Students rarely receive any guidance about what Lib Ed courses to take (except for the requirements).
- b. Bok states that "majoring in engineering is negatively associated with a long list of important outcomes, including writing ability, cultural awareness, foreign language skills, etc.
- c. Industry is demanding that employees have more team skills, communicate better, and understand role of society.
- d. ABET has recently (2000) instituted a-k goals of engineering education.
- e. There is no room in curriculum to insist that engineering students take more courses. "Success will require having liberal arts professors join with their engineering colleagues to integrate work in writing, ethics, and socio-economics perspectives into existing engineering courses."

12. Education

- a. Education majors have ample time to take liberal arts courses.
- b. "Majoring in education is negatively correlated with critical thinking and problem-solving, general knowledge, openness to diversity, and voting in elections"

c. Solution may be closer collaboration with liberal arts faculty. However, arts and science professors tend to look down on education majors as "havens of superficial learning for students of inferior ability."

### 13. Business

- a. Most popular major
- b. Students take many more liberal arts courses than engineering students. Most students take 50 % or more liberal arts courses.
- c. Majoring in business is negatively correlated with appreciation of other cultures and interest in promoting racial understanding. They also lead to lower voting rates and lower political and civic involvement.
- d. Other deficiencies: Poor oral and writing abilities, lack of ethical sensitivity, weak human relations and leadership skills, inadequate powers of analysis and critical thinking, insufficient global awareness.
- e. Solution may be closer collaboration with liberal arts faculty.

### 14. Liberal arts

- a. Most liberal arts programs give very little thought to careers of students after graduation
- b. Business students take 50 % of classes from Lib Arts; however, liberal arts majors typically take less than two percent of their courses in business. Requiring liberal arts students to take two or three elective courses in some practical pursuit could help them prepare for work.

Bottom line:

- Interest in vocational education is only likely to increase with time.
- Faculty from vocational and liberal arts areas should work together.
- Some engineering courses could be structured to offer more liberal arts content. For example, there are a few (but only a very few) courses in upper division IT that are writing intensive (excluding the capstone courses). There could be many more.
- Make liberal education courses easier to access and more attractive to vocational students.

Internships are a place to talk to students, Professor Neuhauser said; companies need to talk to students, for example, and tell them that if they don't know physics, they won't be hired. That should send the message. Internships come at the end, Professor Leger said.

Professor Wambach observed that it is not just the imagination of students that the engineering training is worth more when one compares the starting salaries of engineering and English majors. Professor Leger agreed. Parents ask what the best major is to get a job; he tells them it could be different in four years and that's not the way to pick a major.

One of the student members related that her brother is in engineering and he does not see the connection between his liberal education classes and what he will do in his career; he is not told why he needs to take those classes. Many of her friends are also coming to the University with their majors already chosen; if there were a required introduction to a major, that would be beneficial (recognizing that there might not be enough students in some majors to justify an introduction). Most of the "intro



to engineering" courses are hands-on, like an engineer, Professor Leger said. It would be a positive step to make ANY requirement more transparent, Professor McCormick said, so students understand it and it's not just "because we said so." They should understand why they need skills learning. Dean Green said that liberal arts courses could do so every time; in the History courses he teaches he tells students on the first day about the broader payoff and with examples that relate to the world.

Professor Wambach commented that she regularly has engineering students in psychology classes and the students are often surprised at how applicable the course is to engineering. Students would benefit from cross-over courses, but they are so much work and faculty don't have the time to develop them. There are also cultural differences between colleges that can make it difficult for faculty to work together, Professor Leger added.

Professor Ng said she supported the goal of more interdisciplinary teaching, which is a part of the strategic positioning process; will there be money to support it? Professor Neuhauser pointed out that cross-listing courses is not easy because units argue about tuition, which is a stupid and unproductive way to structure courses. That is especially true for cross-college listings, Professor McCormick said; there are a lot of disincentives for doing so. Dean Green observed that IT would like more interdisciplinary courses and CLA wants more students; there is a need to identify faculty teams willing to teach these courses to engineers and to enhance liberal education options for IT students—and there need to be funding incentives. Professor Wambach suggested working with the Academy of Distinguished Teachers. The incentives would need to be structural, Professor McCormick said; that is where Vice Provost Swan comes in, Dean Green said, to provide a small fund to help pay for the courses because the deans want the credit hours.

Professor Leger observed that the number of students who report they come to college for vocational reasons is high and getting higher; the University ignores them at its peril. That is truer at academically-weaker institutions, Dean Green said; it is also generational, Professor McCormick added. And the way higher education is financed, Dr. Swan pointed out; his generation left college without debt while current students are leaving with \$20-25,000 in debt.

Ms. Alstadt said she found point #3 disturbing; there is a big difference in the mindset of CLA students and those in other colleges. Few bachelor's degrees are enough and many students must get more education, Professor McCormick said. Professor Wambach said it is naïve for faculty to say students are too concerned about jobs and to discount legitimate student needs to think about the future and connect what they are doing in class to supporting themselves later. For faculty to object to vocationalism is misplaced, naïve, and inappropriate.

## **5. Mathematics Requirement**

Vice Provost Swan said that the issue of the University's math requirement would come back to the Committee in the fall, but he noted that at present the University requires three years of math (except for IT and CSOM, which require four years). Data for the Twin Cities campus reveal that 85% of incoming students have four years of math, across all colleges. Those students who come with four years of math have better success records in terms of both GPA and retention.

If there is one area of study in high school that has the biggest impact on post-secondary success, it is math. Minnesota high school math requirements are in flux; the standard used to be two

years but now the state is implementing a three-year requirement and in the future all students must start algebra in 8<sup>th</sup> grade. Tests in math in high school will go through algebra II. His concern, Dr. Swan said, is that students could finish algebra II in 10<sup>th</sup> grade and take the test a year later—and take no more math. That may be acceptable for students strong in math but it is not a good idea for most students.

Last year the Committee discussed whether the University should establish four years of math as a requirement for admission; it is not a yes/no in admissions, but the University does give priority to students who have completed the preparation requirement. Adopting a four-year requirement would send the right signal and there is support for it among high-school superintendents and principals. The State Department of Education is interested in the issue and will work with the high-school stakeholders. One concern is about the capacity of outstate schools to find math and science teachers.

The University has joint-preparation requirements with MNSCU and raised with them a couple of years ago the possibility of increasing the math requirement. At the time MNSCU was hesitant but now they are willing to explore the possibility in a serious way. Both the President and Provost are also interested in the possibility.

An increased University math requirement will have the same effect as the increased second-language requirement, Dean Green surmised: the schools will figure out a way to deal with it. The result would not be bad, Dr. Swan said. Students need four years of math for engineering and science degrees, but if the University expects its graduates will be in leadership positions through life, quantitative skills will give them a leg up.

Would statistics be a part of the requirement, Professor Neuhauser asked? That depends on the structure of the high-school curriculum, Dr. Swan said, but the answer should be "yes." Could the requirement include courses that use math intensively, Professor Ng asked? It could, Dr. Swan said. Professor Ng said that when she served on a state task force, she encouraged there be a requirement that no matter what, students must take math their last year of high school. A four-year requirement would mean that students would see something quantitative in their last year of high school. Dr. Swan agreed.

Any change in the requirement would have to come as a recommendation from this Committee to the Faculty Senate, Dr. Swan said, and presumably that could occur by the December, 2007, Senate meeting. Any change would need to be phased in. If the University announced it will be a long-term change that it intends to stick with, the impact would be immediate. It would also affect the priorities of the curriculum, Dean Green said. Professor Wambach said the increased requirement would be good idea as long as the University retains a holistic admissions process because the data demonstrate students can succeed at the University even if they have not met all the preparation requirements. Nor can the requirement disadvantage students who come from schools that do not offer all four years of math, Dr. Swan added.

Professor McCormick adjourned the meeting at 3:35.

-- Gary Engstrand