

Education

Signs of trouble and erosion in grad schools, says US panel

It is now ten years since the National Academy of Sciences's National Board on Graduate Education rang an alarm bell for the declining state of postgraduate programs and research at US universities. The board found many university administrators worried by "the difficulty of maintaining quality graduate programs as more and more costs must be met from shrinking budgets." Not surprisingly, it deplored the drastic cuts in Federal support for graduate fellowships and basic research in the late 1960s and early 1970s. It is six years since the Carnegie Council on Policy Studies in Higher Education warned of a "lost generation of scholars," as talented college graduates turned away from advanced studies and rushed off to the job market. But the grimmest assessment of graduate education came last 12 December when a panel of the National Commission on Student Financial Assistance reported to President Reagan on seeing "signs of trouble, signs of erosion, in the nation's graduate capacity—signs that in some areas point to serious distress." Accordingly, wrote the panel, "unless our graduate schools receive the support they require, they will not by the year 2000 be able to respond effectively to the nation's imperatives and expectations."

The strong words were intentional, says the panel's chairman, John Brademas, who served 22 years as a congressman from Indiana until 1981, when he became president of New York University. The Brademas panel is a subgroup of the 12-member commission appointed by President Reagan, House Speaker Thomas P. O'Neill Jr (D-Mass.) and Senate President Pro Tem Strom Thurmond (R-S.C.). The report on graduate education, based on oral and written testimony from leaders in universities, business and government, is the last of eight papers issued by the commission, created under the Education Amendments of 1980.

While only 60 pages long, the report voices a discordant litany of what's wrong with graduate education—namely, serious shortages of PhDs in such critical fields as computer science

and chemical and electrical engineering; vacancies in university faculties in solid-state electronics, digital systems and computer science, with some of the best teachers lured by higher salaries and better laboratories at industrial corporations; leaks in the educational pipeline from grade schools through graduate schools of talented students, especially women and members of minority groups, while an increasing proportion of foreign students flood many graduate programs; obsolete and insufficient equipment and instrumentation in many university labs.

The report laments that "our willingness to provide the tools essential to a first-rate graduate enterprise may make our excellence in graduate education a receding goal. We jeopardize our ability to produce the best when we try to get by with second- and third-rate equipment, obsolete instrumentation and inadequate library collections." Quotes and anecdotes are used to support the findings. Thus, George A. Keyworth II, the President's science adviser, is cited as authority for describing the status of research facilities at US universities in 1981 as "disgraceful."

The report also notes that a survey of 15 universities indicates that their needs for funds for research facilities and equipment in the next three years are nearly twice the amount they have spent in the last four years in the physical and biological sciences, engineering and medicine, prompting a respondent to a survey by the Association of American Universities to complain that the real ivory towers are now in industry. As another example, the report says that Thomas Kailaph of Stanford told the panel that when the Department of Defense announced a \$13-million initiative for engineering equipment, it received requests from universities totalling more than \$1 billion.

Other examples of the current situation in graduate schools were equally telling: For instance, only 300 PhD degrees were awarded in chemical engineering in 1979. Of these, half went to foreign students, many of whom went

home. Only one-third of the *summa cum laude* graduates at Harvard in 1980 planned traditional graduate studies, compared with more than three-fourths in the 1960s—a statistic that suggests graduates are discouraged by the dwindling academic job market.

Brademas believes few people in or out of government are ready to face the full implications of the report. The panel admits that support of graduate education "is not the sole responsibility of any one sector of our society. The Federal government, state governments, foundations and business and industry all have an interest in ensuring the vitality of graduate education." But the charge to the commission was to focus on the Federal government, which is called "indispensable" in supporting graduate excellence.

In calling for substantial increases in Federal aid for graduate education, therefore, the panel places itself in opposition to the Reagan administration, which has sought to reduce the Federal budget for education. Among the proposals for new or additional support:

- ▶ The number of science and engineering fellowships in various agencies should be substantially increased, and stipends should be regularly raised to take into account cost of living. The number of research assistants should be increased in all fields.
- ▶ Fellowships to women should be increased, with particular attention given by the National Science Foundation to encouraging them to enter fields where they are underrepresented.
- ▶ More funds are needed to improve and modernize research laboratories, and larger grants should be given to university libraries.
- ▶ Support for basic and applied research at colleges and universities should grow with the economy at a rate at least sufficient to keep pace with inflation. The Federal government should adopt policies and funding practices that ensure stable, long-term support for research, thereby encouraging proper planning and management of research at universities.

—JG