NSF Science Education Excludes Social and Behavioral Sciences

The new National Science Foundation (NSF) Program Announcement for science education excludes the social and behavioral sciences support for research on the development of instruction materials. The announcement, which was released last month, requests proposals "to develop new or improved science instruction materials and to perform related applied research, analysis and dissemination of materials and information." Eligible disciplines are "limited to mathematics, engineering, the natural sciences (including biology, chemistry, atmospheric, earth and ocean sciences, physics and astronomy) and computer science." The restricted eligibility, however, refers only to the subject of curricula and not to the disciplinary affiliation of researchers submitting proposals. $12 million will be available to support this initiative for FY 1983.

Staff at NSF explained that the exclusion of the social and behavioral sciences from the new Program Announcement reflected the science education priorities of the National Science Board.
Neither of two statements released by the NSB following its June, 1983, meeting restricts in any way the definition of "science" to the natural sciences. Education in social studies, the form of most secondary school instruction in the social sciences, is perceived to be a less serious problem than education in mathematics and the natural sciences. The NSF decision to focus solely on the natural sciences in science education is ironic, however, in view of the conclusions of the National Commission on Excellence in Education. That report emphasizes the need to improve our educational system in all areas so that youngsters will be adequately prepared to enter the "information age." For additional views on the need to broaden the approach to educational reform, see Attachment 1.

President Reagan signed into law the HUD-Independent Agencies Appropriation Bill (H.R. 3133) on Tuesday, July 12, concluding the long process that began with budget hearings in late winter. Among other things, the Appropriation establishes the FY 1984 budgets for research in the Department of Housing and Urban Development (HUD) and the National Science Foundation. The bill, like all appropriations legislation, was first considered in the House of Representatives and then in the Senate. For a fuller description of the legislative steps involved in the transformation of a bill into a law, see Attachment 2, How A Bill Becomes A Law.

Unlike last year when nearly all appropriations bills were enacted after the start of the fiscal year, congressional action on appropriations legislation has proceeded more swiftly this year. Three appropriations have already been sent to the President for his signature. Of these, the HUD-Independent Agencies Bill is the only one to have been signed by press time.
CENSUS HEAD JOINS WHITE HOUSE STAFF

The Director of the Census Bureau, Bruce K. Chapman, has accepted a new position as head of the White House Office of Planning and Evaluation. Mr. Chapman’s new responsibilities, which were announced by the White House on July 12, will range from program evaluation and the identification of long-range issues to reporting on demographic developments and suggesting improvements in the government’s statistical system. The description of Mr. Chapman’s responsibilities includes the statement that the Office of Planning and Evaluation "will serve as a catalyst for increasing long range research support from federal offices outside the White House and for seeking similar assistance from persons and groups outside the government." It is not clear, however, whether Mr. Chapman will be seeking to obtain support for the operation of his office or for research more generally. Nor is it clear how Mr. Chapman’s responsibilities will be related to those of Ms. Dorothy Tella, newly appointed Chief Statistician at the Office of Management and Budget (OMB).

The previous head of the Office of Planning and Evaluation, Dr. Richard Beal, is joining the staff of the National Security Council. No replacement has been announced for Mr. Chapman at the Census Bureau.

MARKUP OF LABOR, HHS, AND EDUCATION APPROPRIATION

The House Appropriations Subcommittee on Labor, Health and Human Services, and Education completed its work on July 13 on the FY 1984 appropriation for the Departments of Labor, Health and Human Services (HHS), and Education. The bill will probably be considered by the full Appropriations Committee next week. Among the many agencies funded by this legislation are the National Institutes of Health (NIH), the National Institute of Mental Health (NIMH), the Office of Human Development Services (OHDS), the National Center for Health Services Research (NCHSR), the National Institute of Education (NIE), the Employment and Training Administration (ETA), the Bureau of Labor Statistics (BLS), and the Fund for the Improvement of Postsecondary Education (FIPSE). Information about the appropriations approved by the Subcommittee is embargoed until the bill is considered by the full Appropriations Committee.

The Senate Appropriations Subcommittee does not plan to work on its version of the Labor, HHS, and Education Appropriation until late summer.
NEH GETS STRONG SUPPORT FROM THE HOUSE

When it approved the appropriations bill for the Department of the Interior and Related Agencies on June 28, the House added both $20 million to the budget for the National Endowment for the Humanities (NEH) over FY 1983 and a new program budget "line" to NEH for National Humanities Graduate Fellowships. The new program, if approved by both the House and Senate, would receive $4.95 million to support 150 humanities fellows. The fellowships, which were not requested by NEH, would support students for up to three years while they studied for masters or doctoral degrees.

During the House debate on the appropriation, an amendment to hold NEH funding at FY 1983 levels introduced by Representative John Hiler (R-IN) was defeated 150 to 271. Speaking against the Hiler amendment were Representatives Yates (D-IL), Au Coin (D-OR), McDade (R-PA), Downey (D-NY), Jeffords (R-VT), Simon (D-IL), Panetta (D-CA), Weiss (D-NY), Levitas (D-GA), Gilman (R-NY) and Scheuer (D-NY).

In support of the budget increase for NEH, the report of the House Appropriations Committee quotes President Nixon's 1969 recommendation for increased appropriations which states, in part:

"Few investments we could make would give us so great a return in terms of human understanding, human satisfaction, and the intangible but essential qualities of grace, beauty and spiritual fulfillment."

The Senate Appropriations Subcommittee on Interior and Related Agencies is tentatively scheduled to begin work on the Senate appropriation for NEH on July 18.

SUMMER THOUGHTS...FROM PUSHKIN

I have but little use for those loud "rights" -- the phrase That seems to addle people's minds these days. 
I do not fault the gods, nor to a soul begrudge it 
That I'm denied the bliss of wrangling over a Budget...

From Pindermonte
Alexander Pushkin (1836)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)

NIAAA makes awards for basic and applied alcohol research projects.

**FY 1983 Budget:** FY 1983 figures are unavailable. The FY 1982 budget was between $5 and $6 million.

**Purpose of Program:** NIAAA's research grants program "is devoted to increasing knowledge and understanding of the causes, consequences, nature and methods for prevention of alcohol abuse and alcoholism, and developing new or improved methods for the treatment and rehabilitation of affected persons." NIAAA supports research in six areas: (1) etiology; (2) pathogenesis; (3) early identification and diagnosis; (4) treatment assessment, services, and occupational research; (5) prevention; and (6) basic tools and methodologies.

**Funding Mechanisms:** Primarily investigator-initiated grants.

**Disciplines Supported:** The full range of social and behavioral sciences.

**Restrictions on Awards:** Applicants may request support for up to five years. Applications may be submitted by individuals or by any public or private non-profit or profit-making organization such as a university, college hospital or laboratory; units of foreign, State or local government; or eligible federal institutions.

**Review Process:** Peer panel review. Grant applications are submitted to the Division of Research Grants (DRG) at the National Institutes of Health, which assigns proposals to appropriate review panels.

**Contact:** The next deadline for submission of applications is November 1, 1983. For further information call or write:

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Reform in the Past: What Went Wrong?

By FRED M. HECHINGER

Efforts now being made to improve science and mathematics education will fail unless they become part of the reform of all subjects and the entire school system. And if the new science curriculum is to succeed, it must focus on "science for all," not just for future scientists.

These warnings come from Philip W. Jackson, Distinguished Service Professor of education and behavioral science at the University of Chicago, writing in the spring issue of Daedalus, the journal of the American Academy of Arts and Sciences.

Amid a nationwide clamor for improving the way science is taught, Dr. Jackson warns against repeating the mistakes of an earlier set of reformers. Although distinguished scientists tried to give the schools better science programs in the last reform wave of the 1950's, their success was short-lived. In fact, Jerrold Zacharias, the physicist who led that movement to raise the standards of teaching science, speaks today of "the present atmosphere of despair and confusion" and the "deadening sense of frustration."

What went wrong? What past mistakes should be avoided in the new reforms that are imminent? Dr. Jackson believes that by trying to treat high school students as scientists, the new programs were often too difficult for teachers to teach and for students to comprehend. Although many of the new materials were first-rate, they proved too difficult to handle in the routine question-and-answer exchange of the typical classroom. They were not accompanied by sufficient teacher training.

In addition, equipment had a way of breaking down or being lost. Even when superior new materials were available, statewide textbook adoption policies often ignored them, and the pressure to conform to standardized test programs made many teachers reluctant to strike out into uncharted territory.

Finally, the new ways of teaching science and mathematics seemed designed primarily for college-bound students. And since students were given almost unchecked options to select their courses, many avoided the "tough" ones.

With science and mathematics teaching once again in a slump at the very moment when the clamor for scientific literacy is louder than ever, Dr. Jackson calls not just for more science instruction but for a different kind of instruction.

Science in the schools, he says, should not be preprofessional. This does not mean that it should be "easier," but it must be "brought to life," taught in a way that shows its relevance to daily living and to current social issues. For example, it might deal with chemical additives to foods, genetic engineering, pollution, conservation and the disposal of chemical wastes.

Dr. Jackson hastens to add that he is not reverting to the anti-intellectual demands for "relevance" that often made a mockery of real education in the 1960's. He insists that science made meaningful can also be "good science," without sugar-coating or watering-down.

There will be problems, he conceders. An improved science curriculum is bound to call for more time, and since any addition in one area displaces something else, he foresees a struggle over "turf." He therefore urges those who are deeply involved in science and mathematics reform not to concentrate only on their piece of the pie. A sensible strategy must aim at overall school improvement and at fundamental changes in the way schools are run.

"Tough" measures; instruction that bears no relation to the concerns and interests of students; emphasis on memorization of facts and the consequent neglect of critical thought; half-hearted teachers; petty administrative practices — the history of educational criticism in this century, and long before, reminds us that these defects are by no means restricted to math and science alone, but are endemic throughout the system," Dr. Jackson asserts.

But since for every defect there are corresponding strengths, the trick is to rid the system of the things that do not work, while expanding successful practices. This means that those who care about the sorry state of science and mathematics teaching ought to join forces with those who care just as deeply about the sorry state of English, history and other subjects. While there must be division of labor, Dr. Jackson warns against allowing that to create divisiveness. That there is a real and growing danger of such in-fighting is evident from complaints by teachers of the humanities and social sciences as they hear calls for more time and better pay for their colleagues in science and math. The resistance to special pay was underscored last week when the MacNeil-Lehrer Report on public television focused on science teachers' grievances. Despite their own financial plight, they adamantly opposed special pay, saying that it mattered to them how their non-science colleagues would feel.

Two steps are necessary for reform. The first is to teach science better, by relying less on textbooks and classroom demonstrations and giving more time and emphasis to laboratory work, field studies and other firsthand experience.

The demand for this is not new. Dr. James B. Conant, the late president of Harvard who became a leading school reformer, observed long ago that when he was a chemistry professor, that "the stumbling way in which even the ablest scientists in every generation have had to fight through thickets of error, misleadings, generalizations, inadequate formulations and unconscious prejudice is rarely appreciated by those who obtain their scientific knowledge from textbooks."

More recently, Dr. Lewis Thomas, a microbiologist, essayist and chancellor of Memorial Sloan-Kettering Cancer Center, phrased a similar warning slightly differently. He urged science teachers to show students how little is actually known, how much remains to be explored — that "we have a wilderness of mysteries to make our way through in the century ahead."

The second reform step, Dr. Jackson writes, is to insist that "scientists and mathematicians have no corner on the techniques of sound reasoning and clear thought, nor do science and mathematics teachers stand alone as purveyors of the kind of tough-mindedness that has become historically linked to the emergence of a scientific world view. Teachers of many other subjects are there to help as well."

Or, as Dr. Thomas has put it: Science is being taught the way Latin was once taught — as if its facts were superior to facts in other fields. We need to look at the common ground scientists share with all other areas of learning, he says, describing that common ground as "bewilderment."

This is clearly different from many current calls for educational reforms by critics who are certain that nothing more is needed than to pour more facts into children's minds.
HOW A BILL BECOMES LAW

The following excerpts from a speech by House Minority Leader Robert H. Michel (R-Ill.) appeared in the Jan. 25 Congressional Record.

Any member of the House or Senate may introduce a bill embodying a proposed law or revision of existing laws, at any time when his (or her) respective house is in session. When introduced, the bill will be entered in the Journal of the House, and the title and sponsors of it printed in the CONGRESSIONAL RECORD of that day.

Each bill introduced is assigned a number by the clerk of each house and referred to the committee having jurisdiction over the subject matter by the presiding officer, that is, the Speaker of the House or the president of the Senate. Copies of the bill are printed by the Government Printing Office and made publicly available from the congressional document rooms.

Acting through its chairman, the committee decides whether a bill should be taken up by the full committee or referred to a subcommittee for its initial consideration.

The committee's deliberations are the most important stage of the legislative process. It is here that detailed study of the proposed legislation is made and where people are given the right to present their views in public hearings. When the chairman has set a date for public hearings it is generally announced by publication in the CONGRESSIONAL RECORD.

Copies of the bill under consideration by the committee are customarily sent to the executive departments or agencies concerned with the subject matter for their official views to be presented in writing or by oral testimony before the committee. The number of witnesses, pro and con, heard by the committee is largely dictated by the importance of the proposed legislation and degree of public interest in it.

The transcript of the testimony taken is available for inspection in the individual committee offices. Quite frequently, dependent on the importance of the subject matter, the committee hearings on a bill are printed and copies made available to the public.

After conclusion of the hearings the committee proceeds to meet in executive sessions — sometimes referred to as "markup" sessions — to discuss the bill in detail and to consider such amendments as any member of the committee may wish to offer. Each committee has its own rules of procedure but they generally conform to the rules of the House itself.

By a formal vote of the committee, it decides whether to report favorably to the House the bill with or without committee amendments. A committee report must accompany the bill, setting forth the nature of the bill and reasons for the committee's recommended approval. The report sets forth specifically the committee amendments and, in compliance with the rules of each House, indicates all changes the bill would make in existing law. Any committee member, individually or jointly, may file additional supplemental or minority views to accompany the majority committee report. The committee report, accompanying the bill, is viewed by the courts and the administrative agencies as the most important document as to the intent of the Congress in the proposed legislation.

When a bill is reported by the committee it is placed on the appropriate calendar. The majority leadership decides how and when the bill will be considered on the floor. In general the bill is allowed to remain on the calendar for several days to enable members to become acquainted with its provisions.

In both the House and the Senate innumerable measures of relatively minor importance are disposed of by unanimous consent. In the Senate, where debate is unlimited, major bills are brought up on a motion of the majority leader and in the House are called up under a privileged resolution reported from the Rules Committee, which fixes the limits of debate and whether amendments may be offered from the floor. The Rules Committee resolution is called a rule for consideration of a bill; a closed rule if no amendments are allowed, as is generally the case in tax bills, and an open rule if amendments can be offered.

While there are distant differences between the House and Senate procedures, in general a bill is debated at length with the proponents and opponents presenting their views to acquaint the membership, as well as the general public, with the issues involved, and all with a view to arriving at the consensus. Amendments are frequently offered to make the measure more in conformity with the judgment of the majority. In the course of consideration of the bill there are often exchanges by two-thirds of both the House and Senate, which may be offered to determine the sentiment of the members with respect to the pending legislation. The measure may be postponed to some future date or referred back to the committee which reported it.

With the conclusion of general debate and the reading of the bill for amendments, the question becomes whether the House or Senate, as the case may be, will pass the bill in its final form. The CONGRESSIONAL RECORD of the day the bill was under consideration will set forth the verbatim debate on the bill and the disposition made of such amendments as were offered.

With the passage of a bill by either body, it is messaged to the other with the request that they concur. If no action has been taken on the like measure by the body receiving the message the bill is usually referred to the appropriate committee of that body for consideration. Hearings are again held and the bill reported for floor action. On relatively minor or non-controversial matters the Senate or the House accepts the measure as messaged to it by the other body.

If there are substantial differences between the House and Senate versions of a given bill, the measure is sent to a conference committee which is appointed by the Speaker and the president of the Senate from the ranking committee members of each body having original jurisdiction over the bill. The object of the conference committee is to adjust the differences between the two bodies, and to report back to each its agreement. The report of the conference committee must be in writing and signed by those agreeing thereto and must have the signature of the majority of the conferees of each House.

The report of the conference committee cannot be amended and must be accepted or rejected by each house as it stands. If either house finds itself unable to accept the conference committee report a further conference is usually requested.

When the bill has been agreed to in identical form by both bodies a copy of the bill is enrolled, signed by the Speaker and by the president of the Senate, for presentation to the president. The bill becomes law with the president's signature of approval, or it may become law without his signature if he does not return it, with his objections, to the Congress within 10 days of its presentation to him.

If the president should return the bill, with his objections, to the originating body of the Congress, his veto may be overridden by two-thirds of both the House and Senate respectively voting to have the measure become law, the president's objections to the contrary notwithstanding. Both the president's veto message and a record of the vote of the individual members in the motion to override are required by the Constitution and set forth in the CONGRESSIONAL RECORD.