FINANCING EDUCATIONAL RESEARCH*

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I have long been concerned about the financial support of educational research. From 1940 to 1970, our gross national product rose from 100 to 900 billion dollars. Even after correction for inflation disposable personal income per capita more than doubled over that period. Yet over these years, the research budget has been minuscule, never more than a small fraction of one percent of the operating expenditures for schools and colleges. Since 1940 our nation has been required to cope with the problems of unemployment, war, and social revolution. I am not sure how much these competing purposes detracted from the financing of educational research, but they were at least convenient excuses. Even this year President Nixon has used inflation as the reason for limiting educational expenditures, including those for research.

We should, of course, recognize, as Gideons suggests, that the financial support of educational research in this country has had its bright moments. One of these came when Henry Barnard, our first Commissioner of Education projected his American Journal of Education. Another was the establishment

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Laboratory Schools, the most noteworthy perhaps being that of John Dewey at the University of Chicago in 1896. Still another hopeful event was the growth of the scientific movement in education beginning with Rice at the turn of the century and lasting well into the twenties and thirties, a movement which gave birth to the American Educational Research Association. With the passage of the Cooperative Research Act in 1954 and the growth of appropriations under that act from one million dollars in 1957 to 67 million dollars in 1968, a new day seemed to be dawning. But, as we shall note later, most of that increase was earmarked for specific purposes.

Despite these and other advances, we have never had much money for educational research. I suspect that the problem is not merely one of competition with other national concerns. I would like to examine some of the complexities of the problem and to suggest some of the steps which may lead to more adequate support.

The Current Situation

As we look at the current situation it becomes apparent that national support for educational research has leveled off in recent years. The budget of the U.S. Office of Education for all research related activities was 83 million dollars in fiscal 1969, 91 million dollars in 1970, and the President
has proposed 98 million dollars for 1971. In relating these dollar amounts to purchasing power, it is clear that there has been relatively little increase in the support of educational research over the three year period. Support through NIH and NSF has also tended to level off.

Perhaps even more significant than the leveling off has been the pattern of allocation of the funds provided through the U.S. Office of Education. At the very time when such funds are being held constant, they are also being spread to cover more and more projects. These projects include regional laboratories, research and development centers, an early childhood laboratory system, pilot centers for policy research, educational resources information centers, evaluation and national achievement studies, and many others. Most of these projects seem worthy in their own right. Moreover, nearly all of them appear to be under-financed. At the same time, every additional project has had the effect of reducing the funds available for unsolicited research. Moreover, such a process has resulted in more and more federal control over the kinds of research to be supported and the institutional context within which such research is to be conducted. These two developments - little new money and additional federal constraints - have done much to discourage and even to alienate
the research community.

This condition at the national level would not be as serious if there were other likely sources for the funding of educational research. But there are no good alternatives. Local school districts have never sponsored much research. And with a few exceptions, they are not likely to do so in the near future. Most local school districts do not see research as a function they should perform. Moreover, again with some exceptions, they are not staffed nor can they attract personnel competent to do research or to direct research programs.

State departments of education for the most part are in no better position than school districts. Few state agencies have done research and many state boards of education and chief state school officers have little conviction about the matter or they do not have the influence needed to establish and support a research function. In my more optimistic moments, I think we are at a point where a number of states may change. Titles III and V under ESEA have encouraged states to think about ways of strengthening their educational programs, particularly in the areas of research, evaluation, and planning. In time, these efforts should provide support for some additional research, but by the very nature of the function of a state department, I suspect most such effort will have to be directed to the
evaluation of state programs and not to more basic studies. Colleges and universities, by and large, do not provide much support for educational research. In the first place, teacher education is the over-riding function of most schools and departments of education. Some 1200 institutions prepare approximately 275,000 teachers each year. The preparation of teachers in great numbers requires a large staff, many of whom have public school orientations. These persons are chiefly occupied with the organization and implementation of training programs and they have little time for research in education.

Even major universities, where teacher education is not a consuming activity, have, on the whole, little concern for educational research and hence, provide meagre support for such an activity. In part, this condition is due to the relative lack of research orientation among many faculty members in education. Also, since most university administrators and governing boards have seen little significant educational research, there is still considerable skepticism about the nature and quality of such activity. With scarce resources research endeavors in the physical and biological sciences and even in the social sciences tend to be given priority over those in education. I see some changes emerging
in this situation. Investigators with strong disciplinary backgrounds in and out of schools of education are giving consideration to educational problems. At the same time, the financing of higher education over the next decade is sufficiently precarious to preclude any new burst of funds for studies in education.

Another characteristic of the present situation is the hiatus between researcher and practitioner in education. Neither has much respect for the other. The practitioner, be he teacher or administrator, is concerned most with action. When he asks the researcher for new information he often finds the response inadequate, irrelevant, and sometimes irresponsible. After a few such experiences he is apt to give up on the researcher. Part of this disenchantment comes from expecting too much from the researcher, particularly in the way of tested knowledge. Seldom does the practitioner sense that the researcher is not only concerned with findings, but also with a way of thinking about a problem or a situation.

The researcher on the other hand often has little regard for the practitioner. Frequently, researchers and practitioners are trained in different institutions or in differentiated programs in the same institutions, hence they do not come to
know each other while in training. Researchers ordinarily receive the doctor's degree early in their careers while most practitioners begin work after receiving the bachelor's degree. Researchers are aware of the studies on I.Q. and college aptitude which suggest that teachers in training frequently rank below students in the arts and sciences. Sometimes the researchers recall the midpoints of these studies and forget the overlap between the two groups. In short, researchers are disdainful of teachers and administrators or at least practitioners perceive them to be disdainful.

With misunderstanding and distrust on both sides, it is little wonder that in such coalitions as the Emergency Committee for Full Funding of Education Programs, recently active in Washington and composed largely of practitioners, that action programs were pushed for full funding more than were research programs. It is well to note also that the congressmen understood what the practitioners were saying.

Still another part of the problem is the confusion growing out of such terms as research, development, and application. One might also add evaluation and planning. In such endeavors as the moon shot the distinction between basic research and technology is somewhat easier for most people to perceive. Moreover, the knowledge base in the physical sciences upon
which the technology of the moon shot was based is much firmer than is the knowledge base upon which we might build a technology of learning and of school organization. In short, with moon shots federal funds could go mainly for development and application. In education this is not the case; research, development, and application must all receive support.

The practice of education, somewhat like any other professional endeavor, is both an art and a science. To the extent that it is a science it is an applied science based on the social and biological sciences. Most research in education will, therefore, make use of one or more of the disciplines in these areas. But there are such a variety of disciplines which may provide some useful approach to the study of educational phenomena. Psychology has been recognized as one of these disciplines for many years, sociology for a shorter period, and political science and economics still more recently. The relationships of biochemistry and genetics to education are still largely undeveloped.

But education is not merely a science; it is very much a process of valuing and setting priorities. Here the humanities, including the disciplines of philosophy and history have an important contribution to make. The crisis in education
at this moment hinges as much about the purposes of the schools and the choices represented in countless school practices as it does in questions having to do with the process of learning.

Even this short delineation of the disciplines relevant to the study and practice of education should make it clear that much remains to be done if the knowledge base required for development and application in education is to become adequate. But this is not to suggest that development and application not proceed concurrently with research in education. We need persons who are concerned with the translation of research findings and value choices and who can develop instructional and organizational models for application in the schools. Moreover, the application of these new practices should be subject to constant scrutiny and evaluation. When such practices warrant wide-spread application there should be resources available to encourage such change. This will often require money for the inservice education of teachers and administrators who are to implement the changes.

As a final aspect of the current situation, we should note that education is very much a public enterprise, not merely a professional concern. Lee DuBridge, when asked recently if the problems of air and water pollution could be solved as we had solved the moon shot, replied that the moon enterprise
was a simple problem of science and technology. Pollution, he said is not only a matter of science, it is also a social, political, and economic problem and hence, much harder. He could have said the same for education. This condition is not yet recognized by some congressmen, federal officials, and others who demand instant results. In the recent efforts of AERA to support educational research with members of the Nixon administration and with members of the Congress we have run into much impatience. Moreover, we have been told many times that there is little political base for educational research.

This lack of political support probably stems from several sources. There is first considerable disenchantment with schools and other formal educational institutions. Second, there is skepticism that there is such a thing as educational research. Third, confusion about research, development, and application, as noted above, is common. Fourth, few political leaders are knowledgeable about educational research and more particularly how any body of research has made a difference in practice.

We are vulnerable on all four points. Many school practices are not defensible. Much of what has passed for educational research has been poorly conceived or inane. We ourselves have not made clear the differences between research, development, and application, and the symbiotic relationships
among them. Finally, we have not taken care to communicate our research findings to practitioners in education and to the public.

In this connection we should also remind ourselves that the politicians are responding to a larger audience. When ESEA Title I funds are threatened, the politicians hear from thousands of school districts. Programs for impacted areas and vocational education can also command broad grass roots support, support that convinces those who hold public office that there is a concerned constituency. On the other hand, funds for research and research training seem to have little if any constituency, hence command little political support.

**Possible Solutions**

I have characterized the current situation as one of standstill financial support at the national level, meagre possibilities of support from local, state, or university sources; a hiatus between researcher and practitioner in education; little understanding of the relationships among research, development, and application; and a general lack of political support for educational research. Assuming this reflects the current situation with some accuracy, I would now like to turn to some possible steps that might be taken to alleviate the situation.

First, I think we must all do everything we can to
improve the quality of educational research. In no sense
do I castigate all educational research, but improvement is
needed. In spite of limited resources, I suspect we can
take steps to improve the research faculty. In many universities
greater care can be taken at the time of appointment to insure
that staff members have had sound research training in one or
more of the disciplines and that they would like to apply
their research skills to the study of education. While, as
Clark and Hopkins suggest, there may be some shortage in
development and diffusion personnel,\(^3\) I am convinced that
many competent persons are and will be available for traditional
research appointments. All indications are that higher
education, particularly major universities, are in for several
years of budget stringency. If this be true, fewer appointments
will be made and as a consequence these institutions will
be in something of a buyers market.

Another source of competent research staff in education
may be found among faculty members who hold appointments in
the disciplines related to education. Frequently, such
persons are interested or can become interested in doing
investigations which have educational significance. Often
collaboration between a researcher in education and one in
a related discipline can be arranged. Particularly if those
of us in education take the initiative and seek such collaboration. Under the best of circumstances each partner has much to learn from the other and the net result is the improvement of educational research.

As a second proposal, I think we must make it clear by our rhetoric and our actions that we support basic research, applied research, development, and application of research to practice. The National Science Foundation reports that the U.S. Office of Education allocates 7 percent of its research and development funds to basic research, 46 percent to applied research, and 47 percent to development. Comparable percentages for all other federal agencies, as they relate to behavioral and social sciences, are basic research 41 percent, applied research 40 percent, and development, 19 percent. Even if this classification be very crude, some increase in percentage of funds for basic research in education seems necessary.

In this connection, we should note that private educational firms are willing to spend money on development, whereas they are seldom prepared to do basic or applied research. Obviously, these private ventures cannot be successful unless their development activities have a sound knowledge base, attainable only through sustained support of research. Private efforts in development have already been demonstrated in the reliance drug companies and agricultural firms place on research done in the fields of health and agriculture. While I suggest that
a greater proportion of the U.S. Office of Education budget go to research and a smaller proportion to development, I am in no sense rejecting the need for development funds. We have great need for ingenuity and invention, and a sustained program in the conversion of knowledge to usable products for schools. In addition, there is also a tremendous human problem involved in the training and retraining of teachers who understand these developments, who have the skills to apply them,\textsuperscript{5} and who can accept change as a part of their practice. From what I can learn, the best of our regional laboratories are attacking some of these problems and they must be given the resources to continue and augment such efforts.

Much of my contention that the funds of the U.S. Office of Education be reallocated has little point if funding remains at the present level. Dividing a research and development budget of 90 million dollars among a score of purposes, forty or fifty institutions, and possibly a thousand individual researchers means that there is too little money to sustain any program adequately. The Commission on Instructional Technology in its report to President Nixon several months ago recommended that the research and développement function in education be lifted out of the
U.S. Office of Education into HEW and that the Institutes of Education, modeled after the Institutes of Health, be organized. To launch the institutes, an initial budget of 150 million dollars was recommended and an annual budget of at least 500 million dollars was anticipated. It should be noted that annual federal expenditures for research and development in agriculture is 500 million dollars and for health more than one billion dollars. When research and development in education is supported at a level approaching agriculture or health the appropriate division of resources will have much more meaning. The President has recommended the organizational structure proposed by the Commission. Let us hope we can now move toward the proposed budget levels.

If we are to secure financial support for educational research at the 500 million dollar level, a third proposal seems necessary. I believe that there must be more collaboration between researchers and practitioners in education. As already noted, attitudes of both researchers and practitioners will make this collaboration difficult to achieve. Let us be generous and assume that there are 10,000 researchers, a figure about equal to the present membership of AERA. There are over two million practitioners in public elementary and secondary schools alone with perhaps another million in nonpublic schools, in colleges, in state and federal agencies, and in other educational organizations. Thus, we have one researcher for 300 practitioners.
Many politicians recognize practitioners in education as constituent groups. The National Education Association with its one million members does get heard, the American Council on Education, representing broadly higher education, is an influential body. The Council of Chief State School Officers and the American Association of School Administrators can hardly be ignored. All of these and some additional groups were members of the Emergency Committee for Full Funding of Education Programs and convinced both houses of Congress that an additional billion dollars for education should be added to the fiscal '70' budget. While President Nixon vetoed the appropriations bill containing the extra billion, subsequent action suggests that education will receive more than it would have done without the efforts of the Committee.

Strong as is the political argument for collaboration between researchers and practitioners in education, there is an even more fundamental reason. Ways must be found to improve educational practice. Increased knowledge, presumably the province of research, should make a contribution to improved practice. Obviously, the road from research to practice is long and hazardous. Much research will not, at least in the short run, appear to have any pay off. In addition to the research there must be development of models and materials, these must be field tested, and if found useful they must then
be disseminated. In this process programs for the training and retraining of teachers and other practitioners must be developed and implemented.

All participants in this process need to understand better than many of them now seem to what the role of each of the participants is. The researcher has a role for which he should be held responsible. He should not be expected to behave like a classroom teacher but he ought to behave in such a way that teachers can understand and come to appreciate his role. The developer has a role for which he should be held responsible. Again, he should behave in such a manner that both researchers and practitioners can understand and appreciate what he is doing. Indeed, collaboration between developers and researchers and developers and users can often improve the product of each. In like manner, the trainer has a unique and necessary role to perform if new knowledge is going to make any difference in educational practice. If collaboration of this kind is to flourish, many teachers and citizens must come to recognize that education is more than merely placing one adult before thirty pupils. Researchers must also be more concerned with the possible application of their work and be willing to support arrangements designed to facilitate that application.

One obvious step that can and should be taken to foster
collaboration between researchers and practitioners in education is the improvement of communication between the two groups. AERA as an organization ought to consider what can be done in this area. As one possibility AERA might develop a new journal or convert one of its present journals to this purpose. Currently, AERA reflects the disposition of most scholars to speak to other scholars. In neither the AERA Journal nor the Review of Educational Research do we have a format which fosters communication between the research community and the able practitioners in education. I think we should fashion such a journal.

I offer a fourth proposal. Since research support must come largely from the federal government, I think that AERA as an organization, and perhaps even more, individual members of AERA must find ways of participating more effectively in the political process. This is obviously a delicate and a difficult position to take. Most researchers would rather not get into the political area and indeed they may be quite inept in such a setting. Moreover, federal support can easily be seen, whether real or imagined, as a way by which government controls the academic world. These caveats notwithstanding, most researchers feel some need to influence the level of support and the general allocation of funds for research and development. If researchers themselves have no influence
in such matters, research legislation will be decided by the politicians and bureaucrats, often without adequate information.

Many researchers seem to feel that they ought to have generous support to study what they wish to study without regard to its possible social relevance. Such a view is a romantic but not a realistic picture of the world. Generous support for the research community must be secured from the larger community. Such support can be generated only through the political process. Moreover, to convince the larger community there must be some prospects of social benefit. This does not mean that every study must have immediate potential payoff. It does mean that some studies should deal with what appear to be pressing public problems and it also means that such activities as development and dissemination as well as basic research should be attended to.

Specifically, how can researchers exert more political influence? I have already alluded to collaboration between researchers, developers, and practitioners. I see that as a first step. Such collaboration can be achieved in every state and can center about every university where research is a major activity. Such collaboration can include the regional laboratories, the research and development centers, and other new institutions concerned with research and development. In addition to including the professionals, such collaboration
should also include the political leaders, some of whom serve on boards of education, in state legislatures, and in the Congress. These policy makers must come to understand what is involved in research and development in education, who are working at it, what some of the results are, and what resources are needed to support such activities. In short, I think we must develop grassroots understanding and support for the research enterprise. We can do this only with the help of the practitioners.

I think we shall have to go even further. Since AERA has a very small constituency, I think we shall have to join in coalitions with other educational groups which have much larger constituencies. Building on grass roots collaboration suggested above, efforts should be augmented to increase the communication between AERA and organizations of teachers and administrators in both higher and lower education. Frequently, we shall need to take joint action with these groups. Our participation in the Emergency Committee for Full Funding of Education Programs was a step in that direction and such efforts should be continued.

At the national level we shall also need to pursue our own a number of activities designed to increase understanding and support. The officers and staff members of AERA have been giving this matter considerable attention. It seems
rather clear that many congressmen need and want information about research and development efforts in education. As one response to such a desire a dinner meeting devoted to early childhood education was held recently for interested congressmen. Another meeting on the financing of education has been arranged. Scholars in the two fields have responded to the invitation from AERA to participate.

These are exploratory efforts. Such meetings take time and money. The congressmen involved seem to appreciate receiving information from individual scholars and not being limited to that supplied by some agency of the executive branch. Even more important would appear to be the beginning of a communication process. Scholars and congressmen have established contacts which will undoubtedly lead to future interchange.

We may be at a time in our history when leadership for education, particularly for educational research, will come largely from a few congressmen who sense the importance of the matter and who are willing to risk a political future in support of such a cause. We would do well to see that such potential leaders are equipped with all of the information we can give them. If prototypes are needed one can find them in Senator Hill and Congressman Fogarty and what they did over many years in the field of health - both its research and practice.
These considerations lead us to the question of how AERA should staff its central office. Clearly, a communication network among congressmen and federal agencies cannot be established and maintained without some effort including staff time. As yet, we do not wish to succumb to the Washington syndrome of frenetic concern about every statement of government officials. When a staff member for federal affairs is appointed, he should probably spend as much time in the field as he does in Washington. He should know what researchers are doing, where particular problems are being tackled, and what approaches and findings would appear to be of interest to law makers. With such information at hand and hopefully with the confidence of both researchers and legislative leaders he would be in a position to foster contacts between them.

In summary, I have noted that educational research is not well supported in this country. I have suggested certain conditions which seem to be related to that meagre support. I then made four proposals designed to improve the financing of research. These were an improvement in the general quality of our own work, our support for a broad range of research activities including development and application, greater collaboration between researchers and practitioners, and finally more effective participation of researchers in the
political process. A major ingredient in all of these proposals is extensive transmission of knowledge in understandable format to the practitioner and the political leader. As Commissioner Allen has requested, "We must help him make the case."
FOOTNOTES


