— THROUGH A BLACK BOX, DIMLY —

Beatrice Brennan   —   Lewis Rhodes

(Each year the "Washington Internships in Education" program under the direction of Donald P. Mitchell, selects a small number of individuals to work for one year on special assignments for particular agencies or groups involved in some major educational activity in the nation's capital. During the year 1968-1969, Sister Beatrice Brennan of the Convent of the Sacred Heart was selected to participate as an intern in this special program for the advancement of education funded by the Ford Foundation. During this period she worked as a Washington intern on the staff of E. F. Shelley and Company on the ES '70 program.

Shortly before returning to her religious community this Fall, Sister Brennan met with Acting Director Pruitt and staff of DCVER, USOE, and with her colleagues to share her impressions of the ES '70 program resulting from her work and her visits to the individual school districts. With Lewis Rhodes, also of E. F. Shelley and Company, she prepared the paper which follows.)

In the early days of the ES '70 development, Robert Pruitt, then Superintendent of the Quincy, Massachusetts Public Schools and later to become Acting Director, DCVER, USOE, made the comment that ES '70 was, in reality, like a "black box." He indicated that we knew what should go in it, and what we wanted out of it, but the process itself that linked the two would have to be discovered and made operational through ever-widening "holes" in the "box."

We have found this black box analogy very appropriate to our tasks over the past year. Much in the way that an inquiry-oriented science student tries to identify the material in a covered container through limited sensory clues, we have been able, in the course of our visits to school sites and research contractors, to probe and observe the process underway in the ES '70 project. What follows is what we think we "see" based upon our limited probes. As generalizations they naturally require continued testing against the on-going reality of whatever will be happening within ES '70 in the future. Nevertheless, we feel that it would profit the current discussion of ES '70 direction to extend these generalizations, at least on paper, to see what their implications might be for future educational planning.

WHAT APPEARS TO HAVE HAPPENED . . .

The chronological history of the ES '70 project — the early promises, the changes in support, direction, etc. — are well known to those to whom this informal paper is directed. Our focus here is not on the project itself as much as its consequences — what has been happening because of ES '70 and why?

. . . In the Local Educational Agency . . .

As we look at the changes that have occurred in varying degrees in the schools associated with the ES '70 project and attempt to conjecture as to the basic causes and motivations behind them, the first common factor we would identify would be that of a *changed view* of the educational process. In each case some event seemed to have served to spark a new awareness of the differences between the institution of education as a facilitator of *teaching* and the institution as a facilitator of *learning*. Most frequently the experience of having to write instructional objectives in terms of student performance had served as this catalytic spark. Personnel in their various jobs began to ask different questions as to their roles and contributions to the learning of their students. It appears to be this "different" question — one which relates things to what happens to the student — which is the vital first step to any process of change.

A second force which seems to have contributed to meaningful change appears to be the provision of a local ES '70 coordinator and staff. As an internal agent, in most cases without regular assigned instructional duties, he could serve as what has been termed "a linking agent," a "Vice-President in charge of heresy," — carrying ideas and building relationships between people which would facilitate cooperative efforts toward common goals. Moreover, he could assist the on-line practitioner in the definition of these goals in terms which had meaning and relevance to the local situation, and from this common perception of goals and problems, he could more appropriately indicate, and frequently provide, relevant ideas, materials, procedures, etc., from research.

A third, and related, motivational element seems to have been the value of having *meaningful* objectives, i.e., objectives to which each participant in the process could continually relate his role and contribution. This form of internal feedback seems to have provided the personal reward and satisfaction vital to any human enterprise.

. . . In Educational Research . . .

In addition to the above three influences on the operational processes of the schools there appear to have been elements of the ES '70 project which have also contributed to the process of managing research and its developmental applications. There is a common frustration that is found in most of those who are doing research and development with the "new" concepts and means of education. They recognize that the "piece" with which they are dealing will have little chance to make a significant difference unless other correlated changes can be made in the school environment. It appears that the *links* which the ES '70 project made possible permitted many of the research contractors to view their contribution within a broader framework of correlated research and development, facilitated an exchange of immediate information between research organizations working in related areas, and provided continuing "reality" testing sites for concepts and materials.

. . . In the Development of a "Process" of Change . . .

Two final observations about what appears to have been happening in the "black box" from the point of view of process management: first, the provision in the original ES '70 design for the systems management to be in the hands of a specialized management agency, separated from the self-interests of the diverse partnership elements, seems to have made it possible, when conditions surrounding the project began to change, to maintain an objective "fix" on project *ends* while facilitating a developmental view of project *means*.

THROUGH A BLACK BOX, DIMLY *(Continued)*

In this way it was possible to perceive alternative courses to objectives, which could remain constant, thus avoiding the common pitfall of experimental projects which, under the reality of changing conditions, attempt to maintain allegiance to "means" rather than "ends."

Secondly, the opportunities provided for those who determined project direction to have continuing confrontation between the immediate needs of local school operation and the longer-range requirements of national educational planning and research made it possible to proceed in more realistic directions that represented a synthesis of both views. This continuing interface seems to have provided the basis for what potentially could be the most unique and important aspect of ES '70. In this view, ES '70 might, in reality, not be considered an R&D project, but rather R&C — that is, *research* and its *consequences.* Innovations traditionally have been rejected by education not because of their lack of validity, but rather because of their consequences on the educational environment, i.e., the changes in roles, scheduling, space allocation, etc., which they would necessitate. By treating university research and local educational agency operation as dual, interactive development paths it seems that it may be possible to avoid dealing with the consequences of innovative research in a fragmented one-at-a-time fashion. This interactive tie in ES '70 between continuing inquiry and the realities of school operation may be a necessary component of institutional self-renewal — the management of a process of "becoming."

WHAT APPEAR TO BE THE CONSEQUENCES OF ES '70 SO FAR . . .

A determination of the significance of the efforts which have gone into ES '70 is dependent upon which agency is making the judgment.

For *national educational leadership,* the human-systems processes applied to the ES '70 project seem to offer a way to concretize the total problem of institutional change so that necessary partial changes can be perceived in a comprehensive and realistic framework.

For *educational research agencies,* the ES '70 efforts offer an indication of how diverse research efforts dealing with the elements of larger concepts can be interactively linked — (a) to increase mutual effectiveness, (b) to increase the cumulativeness of the separate research, and (c) to bridge the gap between research and its consequences.

The less obvious consequences of ES '70 for the *local* and *state* educational agencies may in the long run be the most significant. These would include, for instance, the provision of access to problem-related information sources. Also, local agencies can understand better their own problems when they have an opportunity to view and to deal cooperatively with the concerns of others. Additionally, the collaborative agreement of other educational leaders is a vital requirement if an administrator is to maintain local support for new ideas — ideas which most frequently have perceived, but not demonstrated, value.

FOR YOUR FILES

ES '70 DOCUMENTS, FILM.

PARTNERSHIP FOR LEARNING, a filmstrip-tape presentation of ES '70, is now available for rental at $5.00, including postage and handling. Please list the date you prefer and three alternate dates.

Information on availability of reports, films, booklets, and additional copies of ES '70 NEWS, may be obtained from Robert Pruitt, Acting Director, DCVER, Bureau of Research, Room 3019, U.S. Office of Education, 400 Maryland Avenue, Southwest, Washington, D.C.

ES '70 CALENDAR

NETWORK MEETINGS:
October 30-31 — Quincy, Massachusetts *(note correct dates)*
June, 1970 — Chicago, Illinois
AEROSPACE EDUCATION FOUNDATION MEETING
January 26-28, 1970 — Washington, D.C.