● Research in Review

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Education and the Process of Change

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We have learned the hard way that education is intimately bound to the social trends and rapid changes that characterize our society. Whether or not education must adapt to changing social conditions is not a debatable point; the alternative to planned change is to be buffeted about by the pressures and demands of a society that clamors for educational services of many kinds (16, p. 1).

A SAMPLING of four pamphlets recently published by ASCD may indicate the degree of interest in change —*Changing Curriculum Content; New Curriculum Developments; Strategy for Curriculum Change; Curriculum Change: Direction and Process.* From the titles themselves, one can note a shift in interest from *what* is to be be changed to the *process of* change itself.

A large number of variables may be examined in studying the process of change. In *Innovation in Education,* Miles lists an agenda of seven characteristics for such a study (13). This review will examine four of these aspects: characteristics of change, characteristics of innovation, process during change, and characteristics of the innovative person or group. From this examination

some implications about adopting changes in education will be drawn.

Characteristics of Change

In surveying current literature dealing with change, one finds two terms, *change* and *innovation.* Although these terms are often used interchangeably, Miles (13) and Lippitt (9) probably would distinguish innovation as one particular kind of change. That is, although innovation involves some sort of change, every change is not necessarily an innovation. An example may be drawn from Thelen (18). Of the four procedures he lists to implement educational change, three have been used and have failed. These procedures are bearing down more heavily with more of the same, tinkering especially with accidentals and experimentation; all three are changes. The fourth is really an innovation—educating everyone concerned with the enterprise of education. It involves all of society in meeting the needs of tomorrow.

Ronald Lippitt and his associates at the University of Michigan have studied the process of change as it applies to education. In several places, Lippitt has noted specific differences in the

adoption of change in the social sciences as opposed to the adoption of change in the pure sciences (10). He lists eight aspects which are unique to the change process in education.

1. Most changes in practice require changes in the attitudes, skills, and values of the practitioner so that the change can become a useful adoption or adaptation.

2. A large portion of the significant innovations in the field of education remain invisible, undocumented, and inaccessible to many potential adoptors.

3. Under some conditions educators are expected to be their own inventors, while under others their colleagues and their administrators would disapprove.

4. Education lacks a professional network of communicators and change agents.

5. Colleagues often are inhibitors to trying out or to adopting innovations.

6. Creative working relationships among social scientists are lacking.

7. Feedback mechanisms to reinforce change efforts and to tell educators whether try-outs are successful are lacking.

8. Administrators and curriculum coordinators feel that the community will react against experimentation (9).

David Clark and Egon Guba present a model or schema, as they call it, of the change process (4). Theirs is a fourfold classification system which proceeds from research through development and diffusion to adoption. In this taxonomy, school systems are involved in the diffusion and the adoption processes.

In other words, schools should be involved in the realm of operation. Their mission is to develop the best possible operating system. One way to complete such a mission is presented by Robert Fox in a problem solving approach for in-service training (6). In this model the establishments to which Broudy referred in his 1966 ASCD speech (3) and the various systems listed by Miles (13) cooperate in bringing about change.

Characteristics of the Innovation

Typically, there has been a lapse of fifty years between insight into a need and introduction of a generally acceptable way of meeting that need, according to Mort (15). This may be because, according to Merton and Lerner, there seem to be two gaps between research and policy. First, research is not adequately focused on the practical problem. Second, concrete forecasts are contingent on uncontrolled conditions (14). However, the tempo of diffusion can be increased if a public demand is built up, if professional leadership in the school is made receptive to the demand, if instructional materials are inexpensive, and if instructional materials are all but self-teaching (15).

In examining the innovations recently attempted, Thelen maintains that "education at present focuses too exclusively on rational processes, on 'objective' formulations of data and on knowledge over which there can be no argument because it is the kind of knowledge that can be authoritatively demonstrated by culturally given scientific canons of proof of acceptability" (18, p. 20). If innovations are based on this focus, we work with only a small part of human knowledge and must broaden our view to the way other kinds of knowledge relate to education.

Processes During Change

At the school level the focus of change is often on what is being changed and on who is being changed. Teachers are

the target with the driving force coming from outside the educational system involved (6). Rather than emphasizing the *what* and *who*, the *how* and *why* of the change must be stressed. The section "Goal and Value Dilemmas in the Planning of Change" by Bennis, Benne and Chin discusses the conflicts which people must face in finding, constructing, and validating directions of action (1). The processes may be organized into several systems; three of which are mentioned here. First, there is the classification system of Clark and Guba which has four general sections: research, development, diffusion, and adoption. Each section provides different roles and involves different social agencies. These authors place the school in the last two phases: diffusion and adoption (4).

Second, a demonstration model is proposed by Henry Brickell. It examines quite carefully the interrelationships of the various structures and substructures discussed by Miles (13). The last, which might be called a problem solving method, is proposed by Robert Fox. This particular approach sees innovation and change as coming from a concern in the actual operation of the educational enterprise (6).

The models themselves are important insofar as they facilitate the process of change. Each has advantages and disadvantages. Each will be useful if it facilitates the process or insight into dealing with change. The problem will be choosing a model appropriate to the situation being faced so that advantages are maximized and disadvantages are minimized.

Educators have looked toward agriculture for approaches to introduce change. The works of Lionberger (8) and of Eicholz and Rogers (5) present a number of interesting comparisons between the change process in agriculture and that in education. Important similarities between the two are listed by Mackenzie. They are that a direct relationship exists between the innovator's orientation outside his social system and his ability to change and that a direct relationship exists between innovativeness and financial resources (12). Differences are also mentioned—education lacks scientific sources of innovation; education lacks agents to promote new educational ideas; and education lacks economic incentive for teachers to adopt innovation (12).

Characteristics of the Innovative Person or Groups

There are three characteristics of the innovator which may be drawn from research (16, 8, 15). First, the innovator is not always a respected member among his peers; second, he values venturesomeness above the esteem of the group; and third he is not identified as influential by those around him.

From Pellegrin's discussion of ten agents which serve as sources for change, one can draw these generalizations (15). The administrator, specifically the superintendent of schools, is the significant contributor. School boards and the lay public exercise a braking influence on innovation. State Departments of Education exercise varying levels of influence as can be demonstrated in the booklet, *Research in State Departments of Education* (10). The U.S. Office of Education exerts increasing influence. One needs only to review recent legislative enactments such as the

Elementary and Secondary Education Act.

Textbook publishers exercise a great deal of control because schools depend upon them for instructional materials. However, innovation may not be welcomed by publishers because they have a substantial investment in already marketed programs; as a result, their influence may be that of reinforcing the status quo. Educational facilities and experts in particular specialties are exerting a greater influence. Scientists and mathematicians have been increasingly influential in science and mathematics curriculum during the last five years. Efforts are now being made by the Regional Laboratories, established under Title IV, ESEA, to contribute even more. Some teacher education institutions, on the other hand, have only recently become effective in the change process and this largely with the aid of the Federal Government and of private foundations.

In summary, there is little doubt that society will continue making demands of the schools which will necessitate different organization in practices from those which exist today. The question becomes whether education will continue to be buffeted about by the demand placed upon it or will meet its responsibilities in a rapidly changing society.

Various models, such as those presented by Brickell, by Clark and Guba, and by Fox may be useful conceptual schemes in organizing for change. Certainly, the work of Rogers in *Diffusion of Innovations* (17) and the work of Lippitt, Watson and Westley in the *Dynamics of Planned Change* (11) cannot

be ignored in considering the complex condition surrounding innovation. Bearing down more heavily with more of the same has not worked. Tinkering, especially with the organizational structure, has led to resistance by teachers, by students, and by communities. Experimentation has not often reached out beyond its own limited scope, and when it has done so, it has not been believed. What seems to be needed is a "way of life" that will enable education to place new meaning in its quest (18), that will enable education to be the humane process.

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