With new developments taking place in planning strategies for change in schools, new schemes and tactics are needed. Minneapolis Public Schools have developed the kind of organizational plan needed to find entry points into schools, systems for data gathering, and employment roles for research specialists. The Model for Local School Evaluation, which has been put into operation, places responsibility for collection, organization, and analysis of information at each of four points in the data communications system. Point 1 is the Central Office Research Staff: the principal contact person responsible for organization and action strategies; three coordinators, one specializing in machines and forms, one in instrument development, and one in analysis; and two clerks. Point 2 is the Local School Committee, elected by teachers and administration, whose chairman is often a university professor assisted by graduate students. At Point 3, the Teachers and Administration perform evaluation under the auspices of the Local Committee, preferably with the aid of someone trained in observation techniques. At Point 4, Student Data, pupil-personnel aid in data collection, possibly with the aid of undergraduates in a research intern program. (Included is a diagram of the model with notes on roles and educational preparation of the various research workers.) (JS)
EMPLOYABILITY OF RESEARCH SPECIALISTS

In recent years, some exciting developments have taken place in planning strategies for change in elementary and secondary public education. In 1965, A.E.R.A. addressed itself to the problem of translating basic research into action by establishing a small committee of interested people to study available data on research utilization. This group used resource people such as Ronald Lippitt, Kenneth Benne, David Clark, and others actively engaged in the process of examining change systems. A symposium at the annual conference in 1965 summed up the findings and recommendations of this committee.

Ohio State University committed itself to the noble effort of studying strategies for change and published a series of Newsletters which related news from the Conference On Strategies For Educational Change, sponsored by the University. These Newsletters began in September, 1965, and major conference input was reported through 1966.

The Cooperative Project In Educational Development (COPED), a three-year project supported by the United States Office of Education, has provided a wealth of material related to planned change in school systems.

It is refreshing to find university and college educators seriously involved in planning educational change. I don't think one has to be one of the great thinkers of the day to realize that change we must, because the education program we have been involved with is no longer adequate for a huge segment of our population.

I would like to make two points in this presentation. First, new schemes and tactics are needed for providing the basis for educational change. In these schemes, entry points into schools and systems for data gathering will have to be found. Second, the term "employability," as it applies to research specialists, implies that someone knows what a research specialist does and that there are institutions training research specialists. I can't pass that without
paraphrasing B. F. Skinner, who once commented on the distinction between teaching and training. When one is being trained, the terminal behavior is usually well defined, such as being trained to drive a car, swing a bat at a baseball, or manipulate a slide rule. It is fairly easy to tell, at the end of the training period, whether the methods and materials used were successful. In schools and colleges the situation is very different. No one has defined the terminal behavior. No one has specified precisely what the student is to do as the result of being taught. The distinction between teaching and training comes down to this; if you know what you are doing, you are training, and if you don't know what you are doing, you are teaching.

I would like to briefly describe the tactic for getting research into action that we have begun to use in several Minneapolis Public Schools. A description of the administrative organization would show Minneapolis Public Schools to be typical of many others in the nation. Each school operates with a great deal of autonomy, with day-to-day decisions handled at the school level. Since texts and other materials are purchased on a mass basis, similar materials may be found in any school. Schools that have children with special learning problems use additional texts and other supplies, but even these are more or less standard throughout the district. The Central Office provides consultants and directors in the various curriculum areas, but program control is in the hands of each school principal. A department for Research, Development, and Federal Programs exists at the Central Office level, and a consultant in the Department of Educational Research has a staff of three coordinators and two clerical persons handling the operation of district-wide research. The major function of the research department has been to gather test data, summarize the data and submit a report to the Central Office Administration. We are now mending our ways to include school personnel.
Our approach to handling individual school research has started with an administrative decision to modify the existing program in a major way. (Program modifications have included scheduling techniques and use of new hardware such as "Talking Typewriters.") The basis for making the decision to change has ranged from pressure from local citizen's groups to hard data supplied from research. Our move is to contact the school principal and request a committee of four or five interested teachers be assigned to evaluate the modification being put into effect. In all cases the committee has been elected by the entire staff rather than appointed by the principal. This "local" research group then addresses itself to the task of setting up an evaluation design. Our Central Office research department gets into the act by attending their meetings, advising on procedure, and handling data through our Central Office data processing equipment. Data is fed to the committee, organized, analyzed, and reported. In every case, the evaluation committee has then become a pressure group to either resist or accept the program modification. Their support or rejection is never a quiet thing. They are proud of their efforts and publicize their findings far and wide.

I tend to agree with Bhola, who coined the term "homeostatic change" which refers to any reactive response intended to restore a state of balance to a system for which change pressures have created an imbalance. Our teachers have reacted to change pressures initiated by someone else, and there is no question that there has been initial resistance and rationalization, however, our tactic has quickly restored balance in the absence of planned change by substituting a plan of action.

In all truth, we don't know whether our tactic will help stabilize the enforced modifications or not. We realize that most of the things thrust on our schools have been the new fashionable innovations and may not have lasting value. We do know that many of our school faculties have not jumped
on the bandwagon in response to the directive to change. Their reaction is generally to resist change, but we feel our evaluation tactic tends to exert a counter force to this resistance by actively involving respected faculty representatives in each school.

Figure 1

MODEL FOR LOCAL SCHOOL EVALUATION
(Arrows indicate data flow)

1. Central Office Research
2. Local School Committee
3. Teachers and Administration
4. Student Data

Figure 1 above is a model for a communication of data system as it applies to our department. The diagram represents a subset of a larger network of decision points that influence local school programs, but it shows the location of evaluation activity at the local school. The focal point in the model is the student, and hopefully, information from this source effects activity in all places.

Elements of the evaluation structure at each point in the model follows a scheme that includes focus, collection, organization, and analysis of information. We have used a variety of research people in the evaluation procedure, and I would like to briefly discuss the types of persons and previous training we look for.
At point 1 in the model, we have four research types and two clerks. One researcher is the principal contact person for the office. Requests for evaluation come through him from within and without the system. Organization and action strategy of the department are his responsibility. General department duties are spread to each Research Coordinator which include data collection, analysis, machine programming, planning, design, and uncountable meetings. One coordinator is a specialist of machines and forms, one is an instrument developer, and one is an analyst. Each one's special skill contributes to the team effort. Therefore, by description these people are generalists, but each has a specialty that is extremely valuable to the others. Training levels of the four specialists are, one doctor's, one near doctor's, and two master's degrees. Coursework of each was heavy in research design, methodology, and statistics.

At point 2 in the model, the chairman of the evaluation committee has served as a research type. Since this has obvious drawbacks if the chairman is not very sophisticated in research procedure, we see the need for a local school researcher to be stationed at the school full or part time. We have accomplished this in two instances, where university professors have been given space at the school, and use graduate students in various ways to gather and work on data. At these two particular places the information gathered is fed to the evaluation committee for further action. Without a person to do committee leg work, there are real limits as to the kind and amount of data that can be gathered by our department. We would want a person trained in basic statistics, research design, instrument development, and observational techniques.

At point 3 in the model, any evaluation performed is done under the auspices of the committee, and never as a directive from the "downtown" people. Following the taxonomy of Stufflebeam, some context, input, and product evaluation has been done, but very little process evaluation. As at point 2, we need a researcher on the site who is trained in observational techniques, and basic data handling methods.
At point 4, standard data collection methods already established at school and district levels have been used. Pupil-personnel people at the local schools have cooperated in collecting data and we have not run into any real problem collecting the standard things such as grades, test scores, absence information, family status, conduct, and so forth. However, the sophistication of the kind of available data is low. An in-house researcher would again be a great help, particularly with the training as described above. We have used people with a variety of background at points 3 and 4, ranging from statistical clerks to University professors. We see an interesting possibility in developing a research intern program with the University to place undergraduates and graduates in schools to do a variety of tasks that would be dictated by the particular situation.

The previous discussion points out an extremely simple entry strategy for doing local school research. It is one we have tried with some degree of success. There are obvious drawbacks, not the least of which is quality control. However, we have pointed out a scheme that justifies the existence of research personnel when change is planned or enforced at a school. We need to examine other research strategies, such as those mentioned in an earlier presentation on this program, and determine additional roles for researchers in the school setting. Once we determine the kinds of answers that public school educators want, we can plan the training procedures for persons to fill these roles.

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