To be more useful in educational planning, educational research must be (1) more broadly conceived to incorporate tasks and techniques from disciplines outside of education, (2) more systematic in the sense that both research and development must be more programmatic in nature, and (3) reoriented so that the results of research, whether called basic, applied, or action, should suggest alternatives in educational planning. Forces which should cause these hypotheses to happen are (1) the entry of the business field into the educational enterprise, (2) the fact that Federal support for education is becoming more program-oriented, and (3) the increasing use in education of new systems analysis and program budgeting tools. (HW)
A NEEDED REORIENTATION OF EDUCATIONAL RESEARCH
FOR EDUCATIONAL PLANNING

by
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OFFICE OF EDUCATION

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INTRODUCTION

I would like to use as a context for my remarks this evening a recent experience I had which was a very educational and interesting one. I received an invitation to attend an UNESCO-UK sponsored seminar on Educational Planning in London this past January. The essential purpose of the seminar was to prepare a working document for an International Conference on Educational Planning to be held this coming August in Paris. As a group of "experts" we were charged with recommending ideas and thoughts about the topics of the administration of educational plans, the financing of educational plans, and ways and means of implementing educational plans.

The thirty-one conference participants constituted quite an interesting group. Representatives were there from Peru, Ceylon, Nairobi, Kenya, Beirut, Finland, India, Hungary, and the UNESCO Headquarters in Paris. I was very interested to hear these representatives concerned with concepts such as innovation and change, how you get people to overcome their resistance to change, the use of new media, and similar topics. Along with these common concerns, I was also very much impressed by how up-to-date on educational

topics these people were. The conference participants were quite familiar with many of the various programs that were going on in the United States.

For those who aren't quite familiar with educational planning, let me provide a brief orientation. Basically, what is being talked about is the integration of education into total national planning; social, political, and economic. The concept of educational planning is important to developing countries because of their needs to produce a variety of manpower skills at certain periods of time and correlate them with the health, economic, and social planning. Planning is being discussed in terms of fifteen and twenty years in the future. In addition to time, plans are being made in terms of dollar costs. In terms of the way it was talked about at the seminar, this concept of educational planning is one which you will hear more about in the years ahead. I should like to take this concept of educational planning and relate it to educational research.

Let me start by saying that planning function is only one step of several functions in the general topic of management. The other functions are those of organizing, directing, and controlling. Planning requires the setting of objectives and the determination and selection of alternatives to reach the objectives. Organization means putting together a structure and resources to carry out the selected plans. Directing is motivating persons to work effectively toward the organization. The controlling function consists essentially of comparing what "should be" happening as set out in the plan to what is actually happening in a given situation, identifying deviations (i.e., problems) and taking necessary corrective actions. It is not of much value to have the organizing, directing and controlling functions if there is no plan.
I would like to offer three opinions or hypotheses about the nature of educational research if it is to be of value in helping with the function of planning in Education. For research to be useful in the process of educational planning, I suggest that it needs to be (a) more broadly conceived, (b) more systematic in its conduct, and (c) different in orientation than it is at the present time. Let me expand on each one of these opinions just a little bit.

**A broader conception?**

By broadly conceived, I mean that the traditional kinds of research on pedagogical techniques, teaching methods, the effect of class size on instruction and so on are good and worthwhile but not sufficient to define educational research. In my opinion, we have to expand the domain of what we might call educational research in order to gain more useful information for planning. For example, we need research on the economic dimensions effecting education. I consider this not to be just economic research but also educational research. I was very much interested to hear the report from Hamilton County this afternoon when they talked about cost/effectiveness in relation to possible scheduling alternatives for school buses. Not only what were the immediate costs but also what the long range costs would be. We need also research on social trends as they relate to education. We need to look at demographic data of all kinds. I have often wondered if we could not have predicted, by careful examination of the right kinds of data, the flight to the suburbs and, as a consequence, the inner city problems with which I know a great many people in education are concerned at the present time. Could we have identified the trend early enough so that we could have been preparing
for it rather than reacting to the situation?

The concept of precise experimental research to me is also not a sufficient definition of educational research. We have to do all types and kinds of research. Running "t" and "F" tests are fine and good and I'm in favor of them. To suggest that we need to do other than experimental research in the field of education, often puts a person on the side of being against motherhood, sin and apple pie. As I have been traveling over the country I have developed the feeling that many of the Educational Research Training Programs are too narrowly focused upon experimental methods. Competent research specialists are being trained. They make good resource people if you want to run certain kinds of studies, find your way around the normal curve table, or to know how to do a multivariate analysis. Such persons are not too often trained to really think through a research problem in terms of developing a problem statement, determining objectives, outlining procedures, conducting the analysis, preparing the budgets, and determining personnel needs. To me, we have the need for a "complete" researcher.

This broader conception of the area we call educational research includes more than experimental research. It involves looking at the research tasks and techniques from discipline outside of education as well as studying the substantive contributions of these same disciplines.

Systematic research:

Educational research needs to be more systematic in the sense that both research and development must be more programatic in nature. There is accumulating evidence that the major breakthroughs in almost any field are made only when a team or "critical mass" is pulled together to tackle a problem.
The individual researcher can and does provide useful knowledge but the problems of education are so big and urgent that solutions can't wait until the individual researcher has produced knowledge for a solution. I think until we accept the idea of pulling a team of specialists together from all areas in working on a problem I'm not sure how much of a breakthrough we are going to make on educational problems. The lack of a programatic effort has been one of the biggest criticisms of educational research in the past. We have had a lot of individual and sporadic efforts but very few organized programs set up with their objectives and resources dedicated to it. The "critical mass" concept is closely related to the Operations Research idea where you bring together a group of persons with highly developed problem analysis skills to work on a problem. To me, it would not be unusual to have an educational research team not only composed of educators but also containing economists, anthropologists, sociologists, and the like. The establishment of such teams create certain kinds of problems, particularly the certification problem. In some way we need to revise or rethink, if you will, some of the traditional policies we have had about encouraging graduate students from other disciplines to go into education until they have had a teaching certificate and been out teaching for a couple of years.

The programatic research programs as I see them, would have both long range goals and funding; five to ten years ahead in terms of where they are now. These programs will take a look at alternatives for problem solution. Each of the alternatives would be examined in terms of the research domain but also the cost that's going to be associated with each of these alternatives and the benefits to be gained. We do have to look at alternatives in terms of their
costs and benefits.

We also have to recognize another condition in what I call a more systematic orientation to educational research which industry and business have recognized. This condition is that any solution that is proposed to a problem cannot be considered as a final solution. At best, we should think of a solution as having an associated probability for solving the problem. That is, any solution we propose is going to have to have an associated probability of success tied to it and we're going to try to identify that alternative, which with its associated costs and benefits, has a good or high probability of success. If educators are looking for final solutions, I think all we can do is to say that any particular solution has an associated probability. On that basis, you make your decision.

If we move into more programatic efforts, we are going to have to train more educators to be program managers. This role is a rather new one in education. In industry and business, this role of program manager is not new. I think this is a competency in the training of educational researchers that we have overlooked. The development and implementation of systematic and programatic efforts will require personnel who are competent to manage such efforts if they are to have a fruitful relationship to educational planning.

New orientation:

By difference in orientation, I mean that the results of research, whether you call it basic, applied, or action should serve basically to provide information relative to possible alternatives in educational planning. Planning of any sort requires information and such information can be provided from many sources.
The concept of management information systems has not penetrated the field of education in any degree of strength yet. By management information systems, we mean simply some type of organized procedure for providing information available for each alternative. The problem is to secure accurate, timely and valid information. I would hope that educational personnel interested in data processing would go beyond such applications like attendance and grade card reporting, and begin to think of the idea of establishing a file of information - sometimes referred to as a data base - so that the superintendent or top school official can query the data base and secure the information he needs for decision making.

Now to do this we are going to have to re-orient the school administrator. Some people would say this is about time but we'll let the school administrators defend themselves. My observations around the country have led me to the conclusion that the existant curriculum matter for the preparation of educational administrators needs to be up-dated. School administrators are going to have to realize that their primary role is one of decision-making - a concept Simon equates to management. Some of my colleagues at Ohio State in Educational Administration are talking more and more about changing the curriculum for training administrators. It will take on more of the dimensions of what I chose to call management.

**Forces causing these hypotheses:**

I believe that these three hypotheses about educational research as supportive to educational planning are going to happen because, whether we like it or not, we're kind of being pushed into this position. One of the major forces in bringing this situation about is the entry of the business field...
into the educational enterprise. You may not like it but business is entering the field of education. They are coming in with not just educators on their staffs but also with specialists. In other words, business has pulled together a "critical mass". The entry of business into education is good because it will present some new alternatives and approaches to educational problems.

Another force is the fact that federal support for education is becoming more program-oriented. When such support first started in 1956 with the Co-operative Research Program, there was a great deal of support for the unsolicited proposal. What we are finding now is more and more Requests for Proposals being initiated by the Office of Education. They want specific topics researched in order to fill our knowledge gaps.

A third force moving us toward the directions I have hypothesized is that of a new set of tools used in education. Just let me identify through some of them - operations research, systems analysis, PERT, systems design and engineering, output budgeting or performance budgeting, and input-output analysis. These concepts are being introduced and discussed in educational journals and at educational conferences. I think you are going to find these tools being used more and more. One of the major questions is whether or not education in general and educational research in particular will be receptive to these new tools. I hope they would be but there is some doubt on my part because I think a communication gap is developing. I'm sure there are people in this room who could sit down and talk about systems analysis and program budgeting, and I'm equally sure there are others who could care less. We are finding groups of educators who can't communicate with other educators. This situation has always been a problem but I hope we can cut down this gap. Just
as we talk about the generation gap with teenagers I think we need to concern ourselves with a generation gap in education. As the new techniques and tools are introduced into education, resistance will take the form of statements that such concepts were determined from business and the military. Operational tools derived from such sources are considered suspect because educators state they are not dealing with hardware but with children. I basically agree with this position but let us not throw out possible useful tools. A second kind of resistance takes the form of the "NIH reaction" (Not Invented Here) and therefore the idea is not any good.

Summary

What I have said to this point may seem a little disjointed but it is not because one of the things that the College of Education at Ohio State is trying to do is develop a means of coordinating these several ideas. We have proposed to establish a faculty, department, or division which is concerned with educational development. By educational development, I mean the total concept of educational development not just the research and development concept. We are concerned with education as a system. We hope to bring together a variety of disciplines and skills to see if we cannot think through the whole problem of looking ahead in education. To me, this is a real exciting opportunity and I hope it goes well. I am really enthusiastic about the new department because if anything, the trip to London gave me reinforcement regarding the value and potential of educational planning. I saw better than at any other time in my life the vital role that research can play in this activity. I see a context into which educational research can fit provided that some new approaches are made as I have suggested this evening.
To conclude, I believe that educational research can be an effective factor in educational planning but that we will have to see it in a new perspective. I am as sure that we cannot continue in the nonsystematic, narrowly-conceived way we have in the past. To reinforce my point, I would suggest that each of us should read the recent report by Jean Chall on research in reading. One difficult problem does present itself in this process. We will have to deal with the every day problems that you face on a day-to-day basis. We know this but we will also have to face the future and what it is going to hold for education.

To me, this is an exciting time to be alive in education. I think things are happening. We're going to see so many new ideas, new thoughts come forward that we never realized were there and I am awfully glad to be part of the scene and making a small contribution in some kind of way. I hope you will feel this same way.