

● Research in Review

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Thoughts About Research In Schools

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A FEW years ago most educators would have sent for a strait-jacket if one had said that we could ever see the day that research and other monies would be available in the quantity that they presently are. In those days persons in education felt that the answer to all their problems would be money—to try new things, to implement new ideas.

Today nearly the opposite is true. What is most in demand is new ideas, new things to try. Research is no longer a glint in the eye of a college professor; it is a way of educational life; and with the proliferation of new practices and schemes we are faced with the problem of a new stance toward research. How are we to cope with and evaluate this tide of educational inquiry?

The Purist's View

The purist, that is the research expert, is and has been somewhat aghast at our classroom research efforts. Professors Stanley and Campbell (1), for example, have labeled most school research efforts quasi-experimental. Thoughtful reading of this material suggests that it is meant to label research efforts that are not quite up to snuff, but are somehow unavoidably lacking.

The purist finds much to criticize, and perhaps from his viewpoint rightly so. Primarily he is concerned about the problem of control. Would the results have occurred anyway? What effect does the specific selection of subjects have on results? Has anything else besides the new procedure been introduced into the activity? (To raise a few of his questions.)

Further, the purist is concerned about the adequacy of the inference process. Did you use an appropriate statistical technique? Was the question asked and were the data collected so that inferential statistics could be used? What is the power of the statistical technique?

Of course, theory is relevant also. Many experts hold to the notion that hypotheses should be tests of a theoretical position rather than simply a question of practical concern. It is apparent that all or at least most school classroom research does not meet this criterion.

Realities of the Situation

The reality of the present school research situation is much more complex than the experts' ideal. We are unable to meet one or more of the criteria of random sampling, careful control, so-

phisticated statistical techniques and relationship to theory in many instances. Should we therefore give up the research quest?

The burden of proof really rests with the expert. To date he has produced little empirical evidence that the kinds of controls he espouses are related to meaningful differences.

But beyond this it would appear that the problems of experts and those of classroom researchers are somewhat different. The reality of school research is that we seek some kind of improvement in programs whereas the reality of the experts' situation is improvement in design and analysis. This conflict often produces the dilemma of seeking well controlled knowledge about things which have little relevance to instruction in its broader aspects; versus perhaps poorly controlled research on directly meaningful concerns. The realistic answer would appear to be that we cannot afford to give up either.

Purposes of Classroom Research

Part of the reality of classroom research in contrast to "pure" research already mentioned is that it has a multi-purpose focus. We are not only seeking answers, but are also inviting staff involvement in thinking about, revising, planning and testing new ideas. Involvement alone has many potential benefits. Some of our problems in programs today arise from a lack of systematic reflection upon our concern. Research involvement is one vehicle by which we can engage in reflection.

The possible concomitant learnings are not to be ignored either. In research parlance this might be called serendipitous findings. In the process of testing

out ideas any number of new insights, new ideas or hypotheses occur to a staff which may not be central to the research but which can have a large payoff later.

What To Look For

Nevertheless, we must be willing and able to evaluate research and/or shape our own research in terms of acceptable criteria of some sort. Classroom research generates some of its own problems not found in design and statistics texts, too. Following are a few ideas about what to look for which can be added to or integrated with the expert's opinions:

Hypotheses: In pure research a good hypothesis may be a testable one, but in classroom research it ought also to have some significance. We are prone to modify large program segments and to overlook the actual changes in teacher-learner situations. Thus, the ungraded school may be researched as an organizational format, but the significant hypotheses will most probably be found in specific alterations of learner contact with materials and/or teachers that this organization may foster. Having said that our plan is better than another does not constitute a significant statement unless we know what the resulting modification in the actual situation was that produced our "better" results.

Operational Definitions: We are prone to accept someone's results or our own efforts on face value. When we say achievement is increased, anxiety is reduced, or self-concept is enhanced, we often display the faith of a child. The test or assessment itself, its reliability, validity, and content must be scrutinized carefully. It is these things which define operationally what is meant by our conclusion. Thus, we may say achievement is significantly increased but find upon examination of the specific test

that it relates mainly to cognitive—memory material. If our goals were the development of principles or generalizations, then the results mean something entirely different to us than what they appear on face value.

Further, an increase in achievement might mean a decrease in some other desirable state. Thus, the range of phenomena examined is directly relevant to our appraisal or plan of research in order to talk intelligently about results or new programs to test.

Data Collection: Who collects the data? Who scores it? What schedule of collection was used? What possibly relevant concomitant conditions existed at the time of data collection? If different people collect and score the data at different times it is difficult to know what it means. We are especially prone to have teachers collect and score data with resulting variations in instructions, variation in climate, help, and variation in scores when checked by observers.

Evidence of the Experimental Procedure: One of the least talked about and most glaring inadequacies of classroom research is the lack of any evidence or even knowledge about whether or not the new procedures are or will be implemented in the ways described in the research proposal or report. Thus, one often finds a description of a new plan, e.g., individualized reading, with no evidence that the description actually was or will be checked carefully along the way. Some of our research, at least, suggests the lack of any assurance that the ideas were really tested.

Analysis of Data: There seems to be little middle ground here. Either we describe results and have no way of inferring testable conclusions from the data (e.g., percentages, graphs, etc.); or we tend to "kill flies with guided missiles." Thus, a highly sophisticated analysis is applied to data which are questionable to begin with, and which do not meet the assumptions of the test or war-

rant the manipulation. One possible avenue for rationality here may be the use of non-parametric procedures (2).

Why Classroom Research Results Are Not Used

We might ask why we bother at all, since there is ample evidence that our research in the past has led to little change. When faced with a conflict between social pressures or personal values and research results we are prone to ignore research. This is highly unfortunate and I suppose more than a little unprofessional; but perhaps not terribly unrealistic. For example:

The cult of experience: We are most apt to feel our experiences are better guides to acting than our research. Education has a cult of experience—which is (as everyone knows) "the best teacher." We either cannot or will not discipline ourselves to the rational direction of affairs. Some may well argue this is to the good, but many things that are known could be utilized to good advantage with a willingness to discipline ourselves by facts.

Quackery in the colleges: University and college people are often not the best models of researchers to follow, and they happen to represent the available personnel at present. Professors follow the fads, that is, "where the money is, so go they!" They are sometimes more interested in getting a grant than finding out anything essentially useful. Clever ideas are at a premium, but the relationship of these ideas to the schools is sometimes rather tenuous.

Research, in other words, can sometimes be more related to the prestige, work load, and personal satisfaction of the professor than to the concerns of the

project itself. Thus, it is not always unrealistic to question the intent of researchers, and to view results in this light.

The bureaucratic bungle: Many of our schools and especially the larger systems are oriented toward maintaining themselves and remaining on balance rather than improving instruction. Research results or efforts call for alterations, and this presents problems to the system. Although those in charge do not wish to impede progress, the weight of the system itself insures actions which are detrimental to utilizing or getting results. Under the circumstances it is usually easier to find some "good" reasons to ignore research or to channel it to the "bottomless pit" of committee and personnel consensus before acting.

Timidity in the schools: Never have so many identifiably qualified people in a profession been so obviously humble or insecure in their tasks. The gaining of knowledge demands taking the risk of failure (which is true more often than not) in research. We seem to operate under the concept of "don't do anything unless it's a *sure bet*." It is not such a long step to the attitude that "the results are not all in," or "let's wait until Jones does it." The result—nothing.

Future of Classroom Research

Don't hold your breath until we solve all our problems by research. Many problems of crucial importance in education are value concerns of a "should"

nature. Further, research is more likely to be characterized by an inchworm progress rather than the dramatic revolutionary upheaval.

We have a responsibility of trust that research can be productive and fruitful, and a further responsibility to see that facilitation of research is promoted in our schools for—"We'll all go together when we go." Maybe not in "one big incandescent glow," but money has now been put where our mouths used to be and we are in a position whereby we have to produce or resign from the guidance, control and development of our school programs.

We shall have a reckoning in a few years. Someone will begin to ask what has happened to education and educational programs with all the money poured into the enterprise. This could prove to be the most embarrassing question in the history of education; or, on the other hand, the basis of putting our profession on a sure footing in the respect of the community. Much of this will undoubtedly depend upon our response to and our utilization of research findings and the research process.

References

1. Julian Stanley and Donald Campbell. "Experimental and Quasi-Experimental Design for Research on Teaching." N. L. Gage, editor. *Handbook of Research on Teaching*. Chicago, Illinois: Rand McNally and Company, 1963. p. 171-246.

2. Sidney Siegel. *Nonparametric Statistics for the Behavioral Sciences*. New York: McGraw-Hill Book Company, Inc., 1956.

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