

Using Educational Research in Improving Instruction

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Educational research, writes Arthur L. Rautman, is to be thought of as an aid rather than a substitute for critical evaluative thinking. Mr. Rautman, clinical psychologist, Counseling and Testing Service, University of New Mexico, decries the blind application of the results of research studies and suggests the proper utilization of research in improving educational practice.

IT HAS FREQUENTLY been pointed out that principles and concepts regarding human nature, human relations, and education have the reputation of being full of speculations, rich in ideas, and low in consensus. It is a weakness of schoolmen that can be understood, therefore, that in attempting to impress upon the public their basic concepts regarding education and teaching they are often over-prone to bolster their arguments with the *ne plus ultra*, "as research has shown—"

In this connection I am reminded of a tale which, although drawn from non-academic sources, may well illustrate a profound academic issue: It appears that a minister and his wife lived for years in a building in which their apartment, like so many in our metropolitan areas, was affixed to a long corridor, like one of many beads on a string. Every morning at an exact hour the minister, on his way to his office, paused briefly at the door of his apartment and perfunctorily kissed his wife goodbye. It so chanced that a newly-wed couple moved into the apartment directly across the hall; and by strange coincidence, the time of their going-to-the-office kiss was the

same as that of the ministerial couple, differing markedly, however, in relative intensity, enthusiasm, and duration. After several days the minister's long-neglected spouse inquired of her husband, had he seen the new neighbors? Yes, he had. Had he also observed the manner in which the new husband kissed his wife when he was leaving for work? Yes, he had. Did he not think that it was a nice thing? Yes, he surely did. Did not the good minister think that perhaps there was a little lesson in this for him? To which the virtuous man replied, with rather more than wonted haste and vigor, that he did indeed think so—but, after all, he had known the girl only these five days!

In working with practical school people I have sometimes had the impression that whenever one attempts to discuss with them the value of research and the application of the results of research to their day-to-day problems, they, too, are not so much interested in evaluating the work of others or in seeing what sort of lesson it may hold for them as they are, like the minister, overly-anxious to step directly into the other man's shoes and go on from there. In their haste to gain the advantages

made available through current educational research, they frequently overlook the fact that even as individuals differ, so do situations. Since the situation in which any teacher or administrator finds himself is almost certain to differ in at least one or more basic elements from the total setting in which the original research work was done, it should not be expected that the results of another man's work can be applied to each and every school situation.

RESEARCH—AN AID TO CRITICAL THINKING

In its proper place, research becomes an *aid* to critical evaluative thinking, rather than a substitute for it. No research study should be interpreted as an admonition to "Go ye and do likewise"—for to do so is as impossible as it is dangerous. The blind application of the results of even brilliantly conceived and meticulously executed research projects has the power of doing the field of education irreparable harm.

The proper approach to evaluation of research is to question the work of another with the viewpoint: "What lesson does it hold for me in my particular situation? What suggestions for handling my own specific problems can I gain from this man's work? What alterations in principles and procedures must be made if I am to apply these ideas in an appropriate way?"

This ability to generalize, to see common elements in a variety of situations, enables us to detect similarities and differences and thus to utilize each day's experiences by organizing the common elements of these widely varied events into new and meaningful patterns. It is this process which makes evident the

significance of what would otherwise remain a mere welter of confused and meaningless activities. For this reason the ability to generalize is one of man's most prized possessions.

To *over-generalize*, however, is fatal, since all too often it leads us, like the seven peas in a pod, to believe that because the pod is green, the whole world must be green. It is easy to make the error of believing that if a certain activity or method has once been found to be good, the more we use it the better—or to feel that one individual's success with a certain procedure indicates that others, too, will succeed if they use this method.

In the psychological clinic, however, we have learned the need for compromise. It is not at all unusual, for example, to encounter a parent who is so involved in her own personal problems that she is not able to carry out what we know to be the "best" recommendations for the care and discipline of her child, no matter how well-planned the program may be or upon how much or how cleverly conceived research the general concepts behind these recommendations may be based. If we ask such a parent to adopt in her relationships with her child certain techniques which in themselves are highly desirable and well documented by sound research but which are foreign to her own personality and experience, we merely foredoom her efforts to failure.

In such a case it becomes necessary to compromise with our purist standards, therefore, and to recommend or to work out cooperatively procedures which, although they are in general less desirable—from our point of view at least, may yet be the best that this par-

ticular parent is able to carry out effectively.

For example, recommending a form of parent-child relationship which is completely democratic in philosophy to a parent who has experienced only autocratic methods, either as a child or as a parent, will very probably result in undesirable behavior by both the parent and her child. Try as she will, such a mother will negate the value of even her correct words and actions by the uncertain spirit which the youngster senses beneath the overt activity. Deprived of the assurance of her familiar philosophy and still unable to accept the new viewpoint as a secure basis for action, the parent quite literally falls between two stools. For such a parent, second-best procedures which are in keeping with her personality and capabilities will in all probability secure better results than a superior, but in this instance unsuitable, method.

In the classroom, as well as in the home and the clinic, this same general principle obtains. In evaluating the methods of teaching we must recognize the fact that a particular teacher will probably do a better job by teaching in her own way than in your way, no matter how well worked out your procedure may be or upon whose research it is based. This does not imply, of course, that your assistance may not enable the teacher to improve her methods, nor even that her method of teaching cannot become more like the ideal you hold. It does mean, however, that the particular methods to be used in the specific classroom, although they may be aimed at the objectives developed through sound research, must yet be implemented in

the actual situation with the material at hand, both physical and personal. Half a loaf is better than none.

Interdependence of Research and Teaching

The function of research, therefore, is not to work out programs of educationally sound teaching procedures and, after once evaluating them in a specific situation, to impose them blindly upon all similar situations. The true function of research is to furnish a fund of information and objective data for further experimental work—work requiring as daring a conception, as imaginative an application, and as critical an evaluation as the original research. And this work must be done, in the main, not by the specially and often narrowly trained research expert, but by the rank-and-file teacher. There can be no sharp line of demarcation, therefore, between research and teaching; the two processes are basically interdependent.

No teacher but a good one, however, can utilize the products of research. The results of any research project are applicable only to other research situations; reports of the findings of other workers can be of help only to the administrator or the teacher who is willing to carry into the classroom itself both the spirit and the method of scientific investigation embodied in the original research. All good teaching involves the creative application as well as the constant re-evaluation of the products of earlier research. The teacher who does "routine teaching," therefore, by very definition can receive no answer to her problems no matter how industriously she scans the research journals, for she can neither

apply the work done by others nor recreate a research-teaching situation so long as she remains a "routine teacher."

Responsibility of the Research Worker

The problem of effective utilization of current research studies, however, is not one sided. In the field of educational research perhaps more than in any other area, those who develop concepts should assume the responsibility for making them intelligible to those who need and use them. This responsibility is one which has not been faced squarely by all research workers. The educational worker in the field is often handicapped by the inaccessibility of research reports—not because these reports are not available in printed form, but because the research writer sometimes seems anxious to impress his audience rather than to elucidate his findings. More often than not, he presents his data in so complicated and uninteresting a fashion, and with so little hint of practical application of his conclusions, that the unbiased reader might question whether the author deliberately sought to cast reflected glory upon himself by seeming to understand something so obviously difficult.

Even further, the concepts developed by research must be made not only intellectually comprehensible, but also emotionally acceptable to those who are to use them. To present the stark facts coldly and objectively is not enough; surely it is sometimes possible to increase their palatability without destroying their veracity!

Professional Training of Educators

The important problem of training professional educators, then, is not one

of training practically minded administrators and teachers on the one hand, and theoretically minded research workers on the other. The essential objective is to train professionally educated individuals who, although they excel in one skill or the other, are nevertheless capable in some degree of doing both kinds of work. A portion of their training must, of course, be specialized; but it should contain for workers in both areas a certain amount of common ground.

All educators must learn to view their own daily tasks in perspective and discern the essential inter-relationships between the theoretical and the applied aspects of education. They must steadily see their own professional problems, pressing as they are sure to be at times, against the broad back-drop of society as well as of their own profession. Such perspective can never be derived from a narrow training in the techniques of a trade; it can be developed only through a broad education in fundamental educational and social issues.

Our need is for research workers who are sufficiently conversant with human beings as the raw materials upon which their conclusions are based that they never lose sight of the basic unit with which they work—the *child*. This is the problem which they have in common with the teachers. Research workers must be able to recognize, and to value, the validity of the child who is in back of their numerical data; they must guard against becoming like so many educational researchers who, in their desire to achieve objectivity, have lost the power even to recognize a child as such unless he is adorned with

a standard deviation and neatly filed in tabular form.

The users of research, administrators and classroom teachers, in their turn, need not so much a reverent awe and worshipful, uncritical acceptance of the products of other men's learning as they need the powers of critical evaluation and imaginative application. Nor should the development of these abilities be left to chance, since there seems to be a tendency for those who teach textbook subjects day after day to relatively uncritical, immature students to come to accept the printed page uncritically themselves, not because its contents are in harmony with their observation and experiences or because it is based upon logical analysis, but merely because "it is written."

Neither should their critical faculties become so over-developed or so warped that they are able to trust only personal first-hand experience. These practical educators must develop the ability to recognize the validity of research data, with its wholesome objectivity, as the summary of many observations made by competent and

sincere observers who knew not only *where* to look but also *how* to see what was going on. These workers in the schools should recognize and accept these austere summaries as observations of actual human behavior, even though the figures in the statistical tables have lost the personal identity and stand for *a* child, not for Johnny Jones, son of John P. Jones, board member.

Synthesis of Research and Teaching

All administrators and all teachers, therefore, must be basically engaged in educational research, just as all educational research workers must be teachers at heart. Education as a profession is impossible without this synthesis. Only through this synthesis can the products of educational research, incomplete as they must always be, continue to be ever evolving and flexible, ideals which invite adaptation and which are to be used in the main only as hints and suggestions—products of educational research safe from being seized upon as the final, infallible word, from becoming for a day another of our educational fads.

THE 1950 ASCD YEARBOOK will be off the press February 1st. This publication, dealing with problems of mental health, will be a most helpful and worthy addition to the distinguished series of ASCD Yearbooks. This volume is primarily concerned with the healthy mental development of what are often called "normal" children; it is only incidentally concerned with the deviates—the extremely disturbed boys and girls. The three major sections are: Factors Determining Development and Behavior, The Child's Motivation, and Knowing and Helping the Child.

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