



How Research Can Help To Personalize Education

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OVER the past half-century, educational researchers have produced an impressive amount of literature about pupils: their so-called intelligence, personality traits, what they learn and how much, and what factors contribute most to their academic performance. These studies have yielded a number of generalizations that are often worthwhile and interesting knowledge to possess. Unhappily, such general information does not help the teacher working with particular children; the teacher is unable to detect the generalized pupil among the flesh and blood children in his classroom for a simple reason—such a pupil does not exist.

General laws about what pupils are like and how they will behave not only fail to help, they actually get in the way of effective work with children. With a generalized picture of pupils in mind, a teacher soon comes to see the real-life individual as a misfit. The discrepancy between what he is led to expect and what he actually finds is mystifying and anxiety-provoking. This frequently activates a number of inappropriate behaviors in the teacher in an all-out effort to alleviate the uncomfortable dissonance. Or, it creates a sense of helplessness in dealing with these "misfitted" children. In any case, both children and teacher suffer.

The first task, then, in personalizing education is to recognize the fact that our

classrooms are populated with persons who share many things in common but who are at the same time in many ways unique. Unless this fact is accepted at the perceptual-cognitive level and appreciated as a value, there is little hope that educational practice will be changed for the better. If educational research is to help bring about this change, or to provide guidelines for more effective operation in the classroom, it has a task, indeed. No less than fundamental reorientation will be required in terms of the purposes of research, the conceptualization of problems, and the methods to be employed.

Where the Action Is

Research must aim to serve the practitioner, with the primary goal of finding answers to the particular problems plaguing our schools today. This means the researcher must go where the action is, since there he can see what the problems are. The move away from the aseptic and artificial atmosphere of the laboratory into the actual life setting will force the researcher to turn his attention from isolated, separate, and controlled events to the "messy" problems in the

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real-life situation in which many forces act and interact all at once. Research, if it is to be implemented, must conceptualize actual problems, in a framework that views behavior and events as complex rather than isolated, dynamic rather than static, and relative rather than absolute.

To help personalize education, the researcher's primary focus and concern will be the persons participating in the educational process, the children, teachers, and administrators; their perceptions of selves, others, the school environment; the effects of these on their behavior; the ways perceptions and behavior can be changed; and the interactions among all of these.

With the purpose in mind of helping persons rather than describing and classifying them, a careful reexamination of the vast number of tests and assessment techniques will be required. Questions must be raised again about the underlying assumptions and

purposes of these techniques. We need to take a close look and compare objective tests, observations of behaviors by trained observers, controlled experiments, projective techniques, self reports, and self-as-instrument techniques, in terms of the inferences made and their effectiveness in helping us understand and work effectively with the persons in our schools.

Methods of design and data analysis will need to depart from and go beyond those traditionally used. After the group mean, we must explore subgroup and individual differences. cursory examination of the literature shows that the majority of studies examine large heterogeneous groups or compare differences between predefined groups, where the mean is one of the fundamental statistics used, yielding an abundance of conflicting generalizations and trends that tell little and help less. This is because every time a researcher calculates and uses the mean, he systematically ignores individual

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differences; in effect, he tosses out the particular persons in his sample. Study must not sacrifice persons to a mythical mean.

The Case Study

Similarly, techniques for analyzing data will be required that yield information about individuals. The ultimate for the helping professions, of course, is the individual case study. Short of that, newer techniques need to depart from the nomothetic approach and move more closely in the direction of the individual case study. The commonly used standard techniques such as correlation and regression analyses are inadequate because they ignore individual differences. For instance, when a low-power correlation is found between two variables for a given sample, one cannot assume that this relationship is of low power for every individual in the sample. Or when the combined effects of a number of variables are computed in a multiple regression, we are in error when we assume that the amount of explained variance for the sample group is identical or similar for individuals within the group.

New techniques have already been developed, and doubtless more can be, that are independent of group means. A computer-based pattern search, for example,¹ is available that is capable of locating patterns or configurations of variables for the actual number of individual cases within a pre-defined or heterogeneous group for which these patterns are most descriptive, without making any assumptions about either the form of distribution or the intercorrelations of variables. Similarly, computer-based cluster analyses, once debugged, can identify clusters of individuals within groups that have certain characteristics in common.

Confidence and Significance

Religious adherence to the statistical model for determining levels of confidence and significance also dismisses the individual

as unimportant. In deciding whether or not our findings mean anything, we have to answer a basic question first: What kind of significance are we most concerned about, statistical or substantive? Many researchers may recall the anxiety they experienced as doctoral students when testing their predicted outcomes, hoping they would be able to reject at least some of the null hypotheses. Seasoned researchers may be somewhat less worried when they must accept a null hypothesis. At any rate, whether one rejects or accepts the null hypothesis, there is never any certainty about being correct. By either rejecting or accepting a null hypothesis, basically what the researcher's confidence amounts to is this: the mistake he made is not as bad as the one he would have made if he had not made the one he did. Hardly a comforting thought, but generally accepted.

The same is true for establishing the significance of findings. The literature is replete with reported relationships for sample groups that did not satisfy the statistical requirements to make them significant. Yet, it is a well known fact that such significances can be produced merely by increasing the size of the sample and the number of variables. Thus, even with the presumed rigor of the statistical models, there is a great deal of arbitrariness. In certain fields such as medical research, the investigator tends to be very cautious in deciding whether certain relationships are significant or whether they can be dismissed. It would be disastrous if, for example, he determined on the basis of a statistic that the relationship between a certain drug administered to a large sample of patients, and ensuing death, was not significant since found only for a small proportion of his sample. As far as the physical welfare of human beings is concerned we are more willing to ignore statistical requirements; however, in the psychological domain, except for clinical case studies, we are not very much inclined to count individuals as important.

For the years ahead, the talents, resources, and energies of many researchers are needed to find answers that will help our children to be more humanely educated. □

¹ M. C. Johnson. "Computer Search for Group Differences." *Educational and Psychological Measurement* 25 (1): 239-43; 1965.

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