

Research can help the teacher tackle his basic problem, that of reconciling individual differences with mass educational procedures.

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Research and Individualization

CURRENT developments on the educational front suggest several things. One is that if research is to serve education best it will be closely related to educational processes significantly influencing individual learning.

Few question that more effective individualized instruction is essential for the development of the well trained, creative and able citizen being demanded for our increasingly complex scientific technological society and for attacking the high priority problem of underachievement. The results of research efforts focused on this problem, perhaps more than anything else, can fortify the American ideal of education for *all* children.

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For convenience, the main body of research affecting individualized instruction may be divided into two categories: (a) investigations of the effects of administrative procedure on classroom teaching; and (b) direct inquiries into teaching methods and processes.

Within the category of research into the effects of administrative procedure would be studies of the effects of the grouping of pupils, changes in the pattern of staff organization and so on. Studies of the effects of teacher-pupil interactions are concerned with pupil motivation, goal setting, the effect of values on performance and similar phenomena related to the direct teaching and learning activities.

The relationship between research on administrative procedures and the individualization of instruction exists because of the implicit assumption underlying much of this research. This assumption is that changes in administrative procedure are likely to result in improved instruction for the individual pupil. Because administrative practices may encourage, facilitate or stimulate

improved individualized instruction in the classroom, it is important to consider the implication of research proceeding in this direction in terms of its help in teaching the individual.

Administrative Procedures

Present efforts to improve educational effectiveness, including individualized instruction, are being concentrated on administrative approaches to improved instruction. For purposes of this writing, emphasis will be placed upon identifying the areas from which much assistance may be forthcoming to help the teacher in teaching the individual rather than upon a thorough review of important research recently completed or being conducted in the field.

Nonprofessional Assistance

Experimentation with new staffing patterns involving the use of nonprofessional assistants to teachers aims at a redeployment of teacher time and effort. Researchers concerned with studies of this nature hope that teachers will be able to devote more time to individual instruction when they are relieved of particular types of work that do not require specialized professional knowledge for adequate performance. The investigations of Yale University-Fairfield Public Schools, the Bay City Public Schools, and the Peabody College-Davidson County Public Schools suggest that the provision of nonprofessional help may enable teachers to realize more fully, potential abilities for individualized teaching (10; 2; 22). If the use of teacher assistants can promote more effective use of the professional skill and wisdom of well trained teachers, these researchers may make a sizable contribu-

tion to the development of individualized instruction.

Special Summer School Programs

Concern for the intellectual development of gifted young people is, of course, related to the more general problem of individualizing instructional programs. Under the impetus of grants from the National Science Foundation a number of special programs in mathematics and science have been in operation during the past summer. And at Western Carolina College at Cullowhee, North Carolina, 80 elementary school children from the entire state have completed a special program for gifted children (21).

One of the National Science Foundation programs, conducted jointly by George Peabody College for Teachers, the Tennessee State Department of Education, and local school systems in Tennessee, made use of public school buildings and facilities, capitalized upon superior teaching ability of public school teachers, and utilized the time of youngsters to provide enriched, individualized instruction for 500 superior high school juniors (5). In other NSF programs, superior high school students were provided instruction on college campuses.

Studies of these programs include investigation of classroom instructional procedure. Thus far, though, their major contribution has been in the form of evidence that unused facilities and teaching skill may be employed in the summer to increase the opportunity for meeting the needs of individuals.

Grouping for Instruction

Once again homogeneous grouping is being employed in experiments designed to improve the quality of education re-

ceived by individual pupils. Hopes for improved teaching as a result of such administrative changes rest on an assumption that teachers will be able to meet the needs of individual pupils more adequately if the range of academic ability is narrowed.

Research evidence on the effectiveness of this device remains equivocal. Perhaps this is true because so many different criteria may be employed for the organization of the groups, and because it is so difficult to establish a causal relationship between the administrative organization employed and the results obtained.

It is hoped that newer studies may make available some definitive answers to this problem of crucial interest to classroom teachers. Two more recent studies at the junior high school level by Martin and Severson are of interest in this connection (14; 18).

In theory, many educators object to homogeneous grouping on the grounds that it fosters the development of undemocratic attitudes. Again research does not provide conclusive answers to this contention; however, Johnson and Baldwin present evidence that pupils with little academic ability are subject to considerable social isolation in the more prevalent heterogeneous class groupings (11; 1).

It is hoped that continued research effort in this area will uncover important facts about the effect of the structure of the group on the development of democratic values.

Abolishing Grade Level Divisions

The Marlboro County School District, Bennettsville, South Carolina, has been developing for the past four years an

instructional program which, in effect, has abolished grade level demarcations. In the program, with instruction geared to the individual and without the conventional retention or acceleration, no pupil repeats any part of a developmental sequence or skips any part of it. The program enables some students to advance far beyond the proficiency expected of high school students, while others may finish their 12 years of formal education at a level below the mythical high school graduation median.

The program provides 12 years of public school instruction based at all times on a previous level of attainment and adapted to the continuing growth and development of the individual.

Televised Instruction

Current investigations are being made in the use of television as a teaching medium. These studies suggest that there are portions of the content of our present educational program that may be presented more efficiently and learned more effectively by means of televised instruction. If this be true, the introduction of a considerable amount of televised instruction may make possible a change in the role of the classroom teacher in the direction of a greater emphasis on educational diagnosis and treatment.

Because of the impersonal nature of televised instruction, however, investigators in this area have been concerned with the psychological effects such teaching may have on the individual. Thus some important insights into the nature of teacher-pupil relationships are appearing as by-products of this type of research. The results of experimentation at San Francisco State College with tele-

vised instruction indicate that there may be important differences in the kinds of dependency relationships that evolve between teacher and student in classroom teaching as opposed to televised teaching (12). A number of important studies in this area have been summarized in the report, *Teaching by Television* (7).

Effects of Teacher-Pupil Relationships

Through the patient efforts of research specialists in education and many related disciplines we are arriving at a more complete picture of what learning really is, particularly in terms of the direct relationships between teaching and learning. As this picture takes shape, the role of the teacher continues to take on new and more complex dimensions.

That part of teaching that deals with the presentation of a body of facts still occupies an important part of the picture. Now, however, instead of filling the entire frame, this aspect becomes a salient feature in a complex of essential functions that are dependent upon and interrelated with each other. The important question now becomes, "What are the things a teacher does that make the important difference between a pupil's learning or not learning?" Reference is made here to a few of the more important teaching functions involved in individualized instruction.

Providing Emotional Support

The wealth of evidence supporting the proposition that learning will take place only when the individual does not feel threatened is overwhelming. Every major learning theory under present consideration accepts the fact that fear is

the implacable enemy of rational thought (9). The personal warmth and understanding of a teacher does more for a disturbed child than just provide temporary relief from anxiety—this support frees the mind for intellectual activity.

Indeed, research presents convincing evidence that intellectual growth will not only cease, but that cognitive power will diminish in situations where children are unable to experience the acceptance and understanding of an adult.

The pioneer work of Bowlby, the evidence supplied by Rogers through research in counseling, the current studies of Redl are a few of the many investigations that relate to this essential function of the teacher (3; 17; 16).

Uncovering Values

If we really wish to know something about a child's capacity for learning, we must understand something about his aspirations and values. It has been apparent almost from the beginning that the ability measured by intelligence tests was not always operational.

The relationships between capacity to perform and the value structure of an individual are now only beginning to be exposed. There is, however, sufficient evidence to support a conclusion that the goals and aspirations of an individual constitute a profound limitation on his capacities.

Research evidence points to the important positions occupied by the teacher and the peer group in the value formation processes. Effective means of working with these intangible yet potent forces are being developed in experimental studies.

Important research efforts related to this area would include: (a) early find-

ings by Foshay and Wann; (b) the psychological investigations of Sherif; and (c) the studies on the effect of group opinion on values by O. J. Harvey (6; 19; 8).

Exploring Goals

Educational research has probably made its greatest contribution to the definition of this particular function of the teacher. Empirical studies of the unit plan of instruction and "problem centered teaching" have cleared the way for the establishment of the kinds of teacher-pupil relationships vital to effective goal setting in the classroom. From the teacher's point of view, the critical problem resides in the difficulty of knowing when a specific goal ceases to be a threat and becomes a challenge to a given individual.

Educational research can show us how to organize our work and conduct our teaching so that we can gain the intimate knowledge of our pupils necessary to effective work in this area. Beyond this point, however, the teacher must be helped to develop a sensitivity to the emotional life of the pupil and the forces at work within groups of pupils. Here research in group dynamics can be of real service to the classroom teacher. By becoming acutely conscious of the interacting forces generated by groups of people the teacher can develop the sensitivity necessary to effective exploration of goals with children.

For the reader interested in research in this area reference is made to the early studies of Lewin, the compilation of studies edited by Benne and Muntyan, and the wealth of materials available from The National Training Laboratories (13; 4; 15).

Developing Self-Sustaining Educational Effort

The teacher often is called upon to fill the role of surrogate parent for many pupils. The problem of managing the resulting dependency relationships adds to the difficulties all teachers experience in guiding their pupils toward the goal of continuing self-education. This section might be subtitled *The Problem of Over Teaching*, for often the most important thing a teacher can do for a pupil is *not* to give the answer.

In this area, research makes its contribution through the growing development of self-teaching devices. An outstanding result of this type of research is the language laboratory with its facilities for listening, recording and viewing (23). Within this facility the student assumes a large measure of responsibility for his own educational progress.

Further examples of these research-developed devices may be noted. These are in the form of pacing machines for teaching phrase reading and self teaching workbooks that supply automatic correction of errors and immediate reinforcement of correct responses. The electronic teaching machines being developed by B. F. Skinner represent an elaborate effort in this direction (20).

In summary, the basic problem that confronts the classroom teacher who wishes to develop individualized methods of instruction arises from the necessity of reconciling individual differences with mass educational procedures. Research, by establishing the value of improved organizational procedures and by isolating the critical interpersonal effects of teaching, can support changes in educational practice that will bring us

closer to the goal of helping each child realize the full potential of his intellectual capacity.

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