This paper is a statement prepared for the General Subcommittee on Education of the Committee on Education and Labor, U.S. House of Representatives. In it the Texas R&D Center's programs in the personalization of teacher education are outlined, including examples of the process at work in experimental projects in the University of Texas College of Education and in the Austin (Texas) Public Schools. The paper reviews the present state of the art and speculates on the steps necessary to implement personalization on a wide-spread basis in the nation's schools and colleges. The paper closes with a request for continued, if not increased, support of the program, not only at the Texas Center but also wherever research and development activities are conducted that might further its implementation. (Author)
PERSONALIZED EDUCATION: AN ATTAINABLE GOAL IN THE SEVENTIES

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The following is a statement prepared for the General Subcommittee on Education (the Honorable Roman Pucinski, chairman), Committee on Education and Labor, U.S. House of Representatives, December, 1969, by Dr. Robert F. Peck, co-director of the Research and Development Center for Teacher Education and professor of Educational Psychology, The University of Texas at Austin.
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Complaints by students and teachers about the de-humanizing effect of mass-produced education are not limited to the college years. At the high school level, especially, where the most serious drop-out rate occurs, this is cited as a major cause for loss of faith in the schools. Indeed, even when students at the elementary level are asked how school could be improved, they tell us they wish their teachers would know and understand them more, as individuals; and they ask why their teachers can't talk a little less and listen more.

Their urging that education should genuinely take more account of the individual is not mere sentimentalism. Research evidence from schools in Iowa, Kansas, New York and Texas is already available to prove that personalized education creates more effective teachers and more effective students.
What is "effective?" It means people who are more self-starting, more self-motivated, more open-minded and more self-disciplined in their learning. When teachers are trained with a careful eye to their individual aspirations in life, their own personalities and their reasons for acting as they do, they become more alert to the effects of their actions on students. What is more, they develop a stronger interest in teaching as a career.

The research is only beginning on elementary and high school students. Nonetheless it already indicates that when teachers are trained to study children individually and to devise even some learning experiences that are personally tailored to the particular child, significant gains are made in school achievement. What is more, the teachers show increased morale and a sense that they are, at last, getting their hands on "the real problem."

The Nature of Personalized Education

What does it mean to "personalize" education? It does not mean showing a vague, sentimental interest in people. It does not mean turning every teacher into a skilled psychologist. It certainly does not mean confronting the teacher with the impossible task of single-handedly creating individualized instruction for 30 to 300 students each day. A total system could be developed for any American school,
however, such that no student would remain an unknown human quantity, treated by uniformly paced, uniformly prescribed education. This would break our long history of failing to educate the less-advantaged half of our population, to cite only one notable defect of our traditional mass-production system.

There is no one, right way to accomplish this goal. At least, there has been so little support for educational research, until recently, that there has scarcely been time to test alternative methods, on any sizeable scale. The basic idea can be stated rather simply, though. Personalized education involves an intensive, objective analysis of the particular nature, needs and life circumstances of the individual learner. Further, it requires a detailed understanding of his personal feelings about himself, his schooling, the people in his world and his own future. Above all, it requires that a teacher create a human relationship with him which blends sympathetic, personal interest and tough-minded realism.

The formula has been advocated for centuries. Good teachers have always tried to practice it to the limits of their knowledge and to the severe practical limits on their time. Now, however, we are beginning to discover methods, develop a technology and see new organizational patterns which can make education a systematically personalized ex-
perience for every American, really for the first time in human history. This can happen if the necessary research, development and dissemination are adequately pursued.

An Example at the College Level

At The University of Texas, ten years of modestly fund-ed research, followed by four years of increased support through the R&D Center, have produced a reasonably simple, practical model for personalizing the education of teachers. There is now the first, modest but objective evidence that it has the desired results. A parallel study by J. T. Sandefur, of Kansas State Teachers College at Emporia, provides similar, reinforcing evidence.

It has taken years to develop the expert staff to generate the complex technology for executing and testing the personalizing procedures. It is taking more years to spell out the entire system so that other educators can use it in an accurate, self-checking way. Highlights of the system can be sketched, though, as follows.

All undergraduate candidates for teacher education go through an assessment process that measures not only subject-matter knowledge but experiential factors, attitudes and personality characteristics. Drawing all of this information together, a staff psychologist forms an in-depth picture of the individual student. The student is then interviewed by
a trained counselor, usually for one to two hours, to discuss his or her major characteristics, how these relate to a teaching career and what the student wants to do to enhance his existing strengths or deal with problems he has not fully learned to handle. In essence, this is a "feedback" session where the student has a chance to see himself objectively, in a realistic but supportively toned atmosphere. Needless to say, it is vitally important that the counselor's attitudes be both objective and constructive.

At this stage, some students -- a few -- decide they don't really want to go into teaching. A few others are encouraged to think about other, specific careers where they might function more effectively or more happily. For most, though, this is the first step in a continuing process of personalized instruction.

Next, the students' actual, primary concerns are assessed. (It is a waste of time, we find, to try to teach child psychology to a young woman at a time when she is preoccupied with anxieties about what her supervising teacher wants or about whether she can "control the class." She may memorize facts for a test in child psychology; but by the next year she acts as if she never heard of it.) In R&D experimental courses, efforts are made to time topics so that they are in step with the naturally occurring sequence of concerns which the students show.
Moreover, ways have been developed to allow self-paced learning, with tutorial help from older undergraduates who have had student teaching. Thus, both the sequence and the pace of learning can be tailored much more to the specific needs of each student.

The student is involved, from the outset of training, in actual efforts to teach. This may be with classmates who take turns playing the role of students, or it may be with school children. In either case, the student is videotaped as she teaches. She then has a private viewing of her videotape, in company with an instructor who knows all that has been found out about her in the program, to date. Sometimes, it is the same person who gave her feedback from her assessment data. In any case, this is another opportunity for self-confrontation. The emphasis is not on coaching her to carry out some specific teaching technique, but to help her see what she naturally tends to do. Almost always, the student wants to figure out ways to do a better job of teaching. The instructor's role is to facilitate the student's insight as to why she acts as she does, what she wants to change and how she might make beneficial changes that would still be true to her own nature. Such changes, it seems, are most likely to endure and to have beneficial effects on pupils; but the proof of this is still in the testing stage.

Such behavioral feedback from recorded teaching performance is given in the context of a system of objective
codes. The student learns several sets of ideas for identifying exactly what she does as the teacher and exactly how a given child, or the whole class, reacts to each of her actions. For research purposes, a trained staff codes the videotapes and computer programs analyze the student-teacher's behavior and the children's reactions. This is not necessary, however, for the personalized feedback to the individual student. There, her spontaneous discussion of things she sees herself doing, is what appears to have the most beneficial, long-term effects.

In short, this program treats the teacher-to-be exactly as we hope she will treat her pupils in the future: with alert, objective, sympathetic attention to what each child is like and why he does what he does.

An Example at the Public School Level

To extend this principle into classroom use, another experimental program is now underway in the R&D Center in Austin. It has been used in elementary schools and high schools serving both advantaged and disadvantaged ethnic-minority children. For a number of research purposes, all children and participating teachers contribute a diversified array of measures of interest, attitude and coping style at the beginning and end of the school year. Six videotapes are made of each class during the year, as well.
The crux of the method, however, is to have the teacher select a few children for intensive, year-long study and experimental instruction. All of the staff resources of the school are involved, as needed: other teachers, the principal, the counselor, the "helping teacher," the curriculum consultants. In addition, a behavioral consultant from the university part of the R&D complex works as a partner with the teacher. The object is to use the teacher's own observations, the assessment data, the videotapes and anything anyone else knows to help the teacher tune in to the capacities, the motives and the feelings of each of the children she selects for special study. In the light of such a diagnostic analysis, she then tries to tailor her treatment of the child to his specific situation. She and her consultants then observe whether her tactic works or does not work. The next stage is to discuss and revise her tactics with that child. The child is at no time aware that he is being singled out for this special attention. Most of the time in class, needless to say, the teacher is dealing with other pupils or with the class as a whole.

Obviously, no teacher could find the time to attend this intensively to every child in an elementary class of 30, or high school groups of 150. Nonetheless, as teachers learn to focus sharply on three or four children, they report that they begin to look with new insight at many of the other
children in class, in the few moments a day when they get the chance. Research is underway, of course, to measure the amount of this "radiation" effect, if it occurs.

Research is also on foot to study exactly what kinds of consultant input lead to effective changes in teacher tactics, what effect a given tactic has on different kinds of pupils and what characteristics of teachers predispose them to use certain methods most effectively or deal with certain kinds of children best.

Needless to say, this systematic audit of the aptitude/achievement ratio, motivation and personality patterns of all the children in a school turns up a great many problems which were previously unknown, early enough for preventive action to be taken if there is someone willing and able to take it. The help of many community agencies can be efficiently involved, as needed, when children with special needs or special problems are identified.

What it Would Take to Create Personalized Schools and Colleges

A major change is needed in the way teachers are educated. Put simply, teacher education needs to be personalized and it needs to allow for far more individualized patterns of learning, in both subject-matter courses and professional courses. This is what all college students are asking for. Certainly, with prospective teachers, who will teach as they
are taught, it seems particularly important to practice what we preach. So far as the modest available evidence goes, it works better than the mass-production method, with results proportionate to the amount of personalizing that is done.

If much of the content were put into self-paced, partially self-study units, the faculty time that was freed from lecturing could go into the one thing which no computer and no library can do: developing an informal, interested, personal relationship with students. Only this amount of staff time could permit any college to responsibly claim it provides "individual guidance." At present, for most students, this is a sadly farcical, untrue claim. (One noteworthy exception is St. Scholastica College in Duluth, Minnesota.)

Some more specialized staffing would also be needed. Not all professors are suited to give constructive, personal guidance. Some are not interested; some are interested but not qualified; some would need to be specially trained in the various techniques for personalizing the student's learning.

Such a program probably could not be done as cheaply as the present system of mass-production. Collecting systematic assessment data, scoring and interpreting it requires a small additional staff of trained people. Providing videotape or audiotape equipment, even of the inexpensive kind, would be an additional expense item. With some technical
staff required for maintenance. Nonetheless, the probable costs do not appear to be so much greater than present levels as to forbid the improved program. Indeed, most large corporations spend a good deal more on personnel training, at all levels, than colleges or school systems of comparable size. The American public just is not used to paying for the amount and quality of staff training, in public education, that is taken for granted in profit-making enterprises.

A second set of changes need to take place in the public schools. A new pattern of staffing seems almost inevitable if education is to improve. If only because more than 50 percent of incoming teachers disappear from the profession within five years, the continuing expertise must obviously reside in a core of highly skilled people who can act as consultants and as senior colleagues (not heavy-handed supervisors) to the "junior teachers" who, in fact, make up the majority of faculties in American schools. These would include people who are highly skilled in arranging and selecting curricular materials, in assessing children, in acting as consultants to teachers on both behavior problems and learning problems. There would be people who can effectively plan and operate intricate, individualized systems of curricular materials, with or without computer assistance.

Given the explosion of knowledge, the role of the teacher simply must change from that of information-giver to
that of diagnostician and guide to student-propelled learning. Some teachers or counselors, whatever they may be called, will need extremely thorough training in the complex skills for analyzing the motives, capacities and behavior patterns of individual students. Their function, thereafter, would be to work in partnership with the other teachers to help plan individualized instruction.

School administrators will also need to shift their values considerably. At present, most principals are primarily locked into the roles of plant manager, chief bookkeeper and disciplinarian. At least some administrators must be freed to become instructional leaders. It is essential that the top person in a school be not only actively supportive but deeply knowledgeable about all aspects of the personalized instruction program.

The image of the "ideal" classroom also will have to change. For generations, and even today, the image has been that of a silent, "orderly" place where the children are all seated quietly, either reading or listening to the teacher. At best, this produces almost completely passive learning. At worst, it breeds bored rebelliousness at the enforced inactivity. Some audacious schools are now doing away with "study" hall and assigning children to serve as tutors to their classmates or to younger children, in a way that actively engages them in the teaching-learning process. Such
experimental evidence as exists is a powerful argument for exactly this kind of active involvement of children.

A third major component of education for the seventies will be the construction, testing and improvement of whole systems of individualized curricula. The work of the Pittsburgh R&D Center and the Wisconsin R&D Center are two noteworthy examples of this trend. The existing system of lock-step curricula is boring and unfair to both children and teachers. On the other hand, it is vastly unreasonable to expect teachers to invent brilliant curricular plans and materials as they go, differing for each student. Nothing less than a very large-scale, nationwide R&D program is needed to do this job, for all of the many kinds of subjects which our schools try to present. Large and appropriate variations need to be discovered and implemented to take account of the vast differences among children from different ethnic groups, different levels of language mastery and from homes with value systems which differ greatly from the traditional value systems of middle-class teachers.

Finally, none of these changes can be effectively brought about without something approaching a tenfold increase in the proportion of the total educational budget which is devoted to research and development. In business, in medicine and in the defense establishment, a minimum of six to eight percent of total outlays is normally dedicated to R&D. In edu-
cation, even now, the grand total allotted for R&D work is less than one-half of one percent. Furthermore, while the normal timetable for the invention and testing of complex new procedures is on the order of ten to 15 years in all of the other sectors of the society, in education there are repeated, urgent demands for "instant success." Even the inadequate current level of funding for R&D work, in all branches of the U.S. Office of Education, is actually being reduced in Fiscal 1970. There appears to be a serious risk of a further standstill in Fiscal 1971.

The research part of R&D is needed because there simply is very inadequate knowledge about the detailed educational practices which will work effectively with specified kinds of students. We know that there are many different types of students, but the crucial elements that differentiate them have never been adequately identified. By the same token, we know there are many different ways in which teachers try to get results, but there is literally no scientifically detailed information about the specific effects of given teachers on one or another type of student. Methods need to be developed for objectified measurement of teaching practices and student learning practices. A good beginning has been made along these lines, but it is a bare beginning.

Another research product will be improved methods for assessing the crucial characteristics of very young children
and of high school children who are functionally illiterate. There are promising beginnings but nothing like well-tested methods which could be used economically for universal assessment of all children, at an early age.

A third kind of research has barely begun: an analysis of exactly what instructional steps produce beneficial or detrimental change in students, whether at a college level or at the public school level. We have made some useful beginnings here, but they are in their infancy.

As new knowledge and new methods are developed, it is even more expensive and more difficult to turn them into reasonably foolproof, fully explained packages of information that can be adapted by educators all over the country. Typically, the initial version of such a package has many shortcomings which can only be discovered and remedied by repeated field testing. Such field testing calls for far more rigorous, detailed evaluative research than American educators are accustomed to. (A notable case in point is the serious failure to apply effective evaluative measures to the several billion dollars of Title I funds which have been spent just in the last few years. "Local autonomy" has often led to excessively fragmented, ignorant decision making, in the absence of resource people who could plan and carry through sound, pertinent evaluative procedures. This has happened even though Congress explicitly required that ten percent of the
Title I funds be used to evaluate the effects of the programs.)

In summary, during the 1970's it would be possible to develop and test educational procedures which would give far more personalized, individualized, flexible training to many of our children and many of our teachers. It would be most unrealistic to assume that the entire country could be converted to such a program within one decade. Nonetheless, with much more sizeable and more dependably maintained fiscal support, and with the active encouragement of the Congress to pursue such a goal for American education, solic, permanent progress could almost certainly be assured.