I have come among you with a mission. It is my conviction that researchers are but half-effective if they only search for truth and fail to carry the word to the world when truth is discovered. My mission, then, is not to persuade you to seek after the truth with greater zeal -- but to enlist you in a great revelation of that which is already known. Quite simply, I'm here as a missionary to try to make missionaries of you, too.

The thesis of my mission goes like this: Modest as we are about what we know -- we psychologists and researchers and trainers of teachers -- concerning the ways in which young humans learn, we in fact know a great deal more about the learning process than is being used in school practice. Putting it quite bluntly, accepted school practice in education of the young does not stay with a quarter-century of respectable research evidence bearing on the subject. This is a truism; nothing new to any of us; we've been shrugging our shoulders over this fact, and casting our eyes toward Zion in exasperation, as long as I can remember. We refer to it as the "research lag" in education, damn it with more or less vehemence in private conversations, and then disappear again into our more satisfying research labors. We know that the teachers and administrators in schools don't use the results of research until those results are forty years old and gamey, but so far we have done little but bleat about it in a peevish way. I'm here to promote the idea of doing something about it.

Why? What brings on this sudden seizure of concern over the research lag? I'd like to tell you some whys and whats that occur to me. Forgetting only for a little bit Satchel Paige's classic admonition, I did look back -- and something is gaining on us! Our basically silly system of running our educational research at the Gemini 7 level and our educational operations at the horsecar level is beginning to look silly to our clients -- parents and taxpayers. Somebody has snitched on us. Somebody has spilled the beans. Somebody has demonstrated in public view that schools generally are trying to cope with space age learning problems using William Jennings Bryan methods. Collectively, these somebodies were represented in Project Head Start -- the coast-

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1Speech given at FERA's Tenth Annual Testing Conference, Clearwater, Florida.
to-coast demonstration of what teachers can do in teaching
young ones when they can be freed -- even for two months --
from the monumental inertia that grips any institution as
large as the American public school system. Let's look back
at Project Head Start briefly.

During two months of the summer of 1965, Educational
Testing Service undertook a special study of the federal
program for educationally deprived children. This "study"
was not a controlled experimental evaluation, but rather a
systematic observation of Project Head Start in operation --
in some 1,300 classes at 335 centers in 49 states -- by
regional teams of distinguished specialists. It was the
purpose of the observation effort to find and report the
most promising educational strategies and innovations in
this massive social intervention, and to ascertain the pro-
ject's probable effects on school and society. With such
goals, the regional teams of observers used every bit of in-
formation obtainable to locate and visit the best centers
they could find in their areas.

There were forty observers, all told, including Dr.
Howard Stoker and Dr. F. J. King of Florida State University.
Each observer made his own itinerary (within loose limits) and
arranged his own visits. The "standard observation" was a
visit of one full day at a center by an observer, with the
observer devoting as much time as the center director would
permit in the classrooms with children and teachers. Every
observer reported every visit in detail, in writing. At the
end of the project, observers met in regional and national
sessions to discuss and interpret the outcome of their ob-
servations.

Out of the individual observer reports, out of the
regional and national discussion sessions, out of the almost
endless "sample" materials brought in from operating centers,
there developed a pattern of generalizations to which most of
the observers subscribe heartily, saying: "These are the
educational strategies that Project Head Start appeared to
demonstrate most dramatically -- the ideas that may change
education in our time."

GENERALIZATION 1. At least for children at the
younger ages (5 and 6 years) the teaching-learning process
is an intensely personal thing, depending upon human inter-
action as a necessary ingredient. This generalization, worn
and old-fashioned as it must seem to a group of researchers,
had all sorts of exciting demonstrations in Project Head
Start. The most notable one -- and it appeared in good cen-
ters all over the country -- resulted from the use of small
classes and teachers' aides. Nearly every child could get
attention from some older person in the classroom when he needed it; he didn't have to wait quietly for twenty minutes before the teacher could get to him to comment approvingly on his drawing. There was a lap to sit on if and when he needed a lap, or a hand to hold on the excursion into the strange neighborhood, or somebody to read to him if he wasn't that day avidly interested in group water-play -- but most often just somebody who could look or listen when the child was ready to be listened to or to have his labor looked at. What is this but a clear and convincing demonstration of much that research has said for twenty years about the relation between action and reinforcement in learning.

The project observers were told hundreds of times by Head Start teachers that with their classroom aides they were able to produce more demonstrated learning (among "disadvantaged" children) in two months than they ordinarily would expect to produce among children in their regular kindergarten or first grade classes in six months. What a staggering import this consensus has for elementary education! With interested young people available as aides from such programs as the Youth Corps, the Job Corps, and VISTA -- and with other young people from service clubs and youth organizations actually clamoring for assignment to meaningful responsibilities in a world that appears to have no real role for teen-agers -- the sources of supply for effective young classroom aides seem to be vast. So only two actions appear to be needed in order to bring a whole new order of resources to bear on our education of young children:

a) Educators and the general public need somehow to be separated from the odd notion that twenty to forty children locked in a room all day with one teacher are necessarily in the best situation for learning anything, and

b) teachers need to be taught how to use classroom aides effectively as teaching personnel and thus to multiply the frequency of human interaction with learners.

These two actions need to be led by someone -- guiding, stimulating, informing, exhorting, shaping, needling, shoving, pulling, preaching, driving, inspiring, cajoling -- so that the American system of education will indeed change. And, since we researchers have thrown over our own shoulders the mantle of science (perhaps even strutting or posing a little while wearing it?) we are the ones who both create and read the literature of research in the field of human learning, our profession to these two kinds of change in ancient habit -- who will?
There are other kinds of change in our system of education for which Project Head Start has given clear portent, kinds of change that already have a few perceptive laymen sniffing the air. I'll mention only a few.

GENERALIZATION 2. With young children as learners, the teaching process can and should be shared more widely with parents and with the community. In this second way, Project Head Start demonstrated how the "lock 'em in a classroom with a teacher" definition of elementary education should be changed. Children were taken into their own communities on frequent trips (in some places nearly every day) for the purpose of having them see and hear and feel and smell and understand the world immediately around them. The aides made this possible -- no teacher in her right mind would take thirty six-year-olds into a supermarket by herself -- but the trips exposed the children to innumerable volunteer "teachers" who appeared just to have been waiting all this time for someone to ask them to help teach the little ones; policemen became real people who were community helpers, the supermarket manager organized shopping practice, bus drivers gave effective lessons in safety, service club members explained about animals as they guided kids through dairies and zoos, parents who were drafted as helpers on trips developed the habit and actually took their own children to other places of interest, teen-age volunteers turned up to share their own interests with the little children in bug-walks and bird-walks and visits to the fire station. Many teachers who trooped their Head Start children through the community on frequent field trips noticed a kind of Pied-Piper-in-reverse phenomenon: more and more adults began to turn up or call up with offers of time and help and material. Business and professional people everywhere seemed delighted by a chance to contribute to the education of small children by sharing with them some of their special knowledge and resources. Skilled workers, especially the older ones, were tremendously pleased by opportunities to visit classrooms and show their skills while being showered with questions (and climbed upon) by the children. School people are out of the habit of seeking and utilizing community resources of these human kinds, but the resources obviously are there, waiting to be used. Isn't there a leadership role open to the educational researchers of Florida in connection with this kind of human enrichment of the classroom?

GENERALIZATION 3. Teachers and administrators are parents who are thoroughly familiar with the behavioral characteristics of childhood, and with the patterns of intellectual and emotional development of young children, can arrange purposeful learning experience for children. Loving
kids is necessary, but by itself it is not enough. Neither is it sufficient unto learning to herd small children into neat, quiet rows and coerce them into "behaving." So much more is known about learning than is used in our schools -- that a lot of people have a lot to learn about children. What we know about learning needs to be shared with all who teach. And who better to do the sharing than those who, because they are researchers, keep up with the observations of Piaget and Bruner and Hunt and Kropp and Deutsch and Kagan and Crutchfield and Curtis and Moore and Thorndike -- and who as a consequence of keeping up know a little of the revealed truth about how humans learn. Who better than we, the researchers, to do that?

GENERALIZATION 4. Learning by doing, at least for young children, is not just a catchy phrase but a stark reality of life. This hard fact, long known to psychologists but often derided by those who yearn for return to a little red schoolhouse that never existed, lay at the heart of the second most clearly seen strategy demonstrated in Project Head Start (the first was use of classroom aides). The observers, because they moved about among project centers and saw many teachers using many different techniques, usually had good opportunities for comparative judgments about what was going on. Without exception, these observers noted that in centers where children were active and involved and doing things that were of interest to them, they were learning at least some of the skills and knowledge mentioned by the Office of Economic Opportunity as desirable goals. Where the children were actively involved, they were changing in desired ways: "In the first days Frank had no vocabulary for use in a group like this; now he can communicate a little." "It took Louise a week to join the others in doing anything; now she takes part in almost every activity." "When we first started we had to go out to the homes to get the children to come to class; now most of them are here in the morning waiting for us."

On the other hand, the observers also noted without exception that in those centers where the Head Start classes were teacher-centered or subject-centered and children were talked-at a lot and highly organized ("Now we're all going to look at these lovely pictures of butterflies if Tommy and Julie will be good citizens and stop playing with the pegboards!"); most of the children had that glazed-over look which means that the child himself -- or the learning part of him -- is elsewhere.

This circumstance -- the autocratic classroom in which six-year-olds sat primly in rows and raised their hands before daring to speak -- raised more ire among the project observers than any other tragic errors of omission or commission they saw. Angered by the statement of one superin-
tendent who opined that "These kids are not here to play -- they are here to learn to read!", one observer responded that in this center Project Head Start was being used to get children going a year earlier on their dropping out of school. The message from all corners of the country was clear: Where these children were doing they were "turned on" and they were learning -- but where their assigned role was passive (listening or watching or waiting) they were "turned off" and not learning. Some educators may be the last people in the world to recognize that children learn by doing, unless we researchers can somehow smuggle this simple fact into their witchcraft manuals.

To give my narrative a small flavor of cheer near its end, I'll mention here one generalization from observation of Project Head Start that had not been preached by psychologists for a generation before advent of the war on poverty. At least to me, this next one is new.

GENERALIZATION 5. One of the universally-overlooked materials of instruction in our public schools is food. This was one of the surprises in observation of the project country-wide. The federal planners laid great stress upon lunches and snacks in improving the nutrition of children in the program, but not much was said about food as instructional material. The program was scarcely under way, however, when perceptive teachers all over began to use food brought into the classroom as the means for intellectual growth as well as physical well-being. Dr. Stoker was one of the first to report this -- from a Georgia center where he saw a class in which each child was totally involved with a peach, his peach; he felt it and talked about how it felt to the touch, looked at and discussed its color, smelled it, cut it into two pieces (making "halves," of course) tasted one piece, separated skin from fruit and commented about difference in taste, counted the stones at his table, studied the stones and talked about them as seeds of growing things, considered whether to plant the stones, and, finally, joined the class in a short walking tour down the street to where there was a peach tree growing -- all in the space of about twenty minutes. Nearly all kinds of edibles were used by some teachers in some way: carrots, celery, nuts, berries, parsnips, apples, and so on. Even the market aspects of food were brought in by teachers who took their youngsters on treks to the supermarket to select and purchase the food to be consumed at snack-time. Whether the child has come to school without breakfast and therefore adds hunger to his other motivations, or is just a normal and interested six-year-old, learning materials that can be studied and then eaten appear to have an appeal that educators should no longer neglect. Perhaps you'll pass the word along.
There are other important generalizations to be drawn from observation of Project Head Start, of course, but for the sake of my peroration I'll terminate my present list here.

If you are extraordinarily good listeners, you will remember that my main point is that I think Project Head Start has spilled the beans as far as elementary education is concerned -- revealing to a lot of interested laymen and newspaper people the fact that schools CAN do a better job in teaching young ones than they customarily DO do. Parents and merchants and public servants in many places have for two months seen in their own communities a school that little kids couldn't be kept away from, a school that seemed to know what children are like, a school that used some of the adult talent with which all schools are surrounded, a school that obviously changed children in desirable ways, a school that made youngsters eager for the next session to start, a school in which learning and doing ran together. "How long has all this been going on?" they ask. "Why haven't we known about this before?" "Why don't we run our schools like this all year?" "Who has been hiding all these good ideas?"

How shall we answer them -- we who are as much a part of the system as anyone else?

Two courses of action occur to me. The first -- the one which comes to mind automatically because it is the course taken so many times by educators that it is an institutional habit -- is to take no action at all: appeal to the level heads in the community, postpone all change to avoid hasty or ill-considered action, and trust that the whole thing will blow over. It almost always has. If things get really sticky, one can allude generally to the exorbitant expense of change and intimate that the taxpayers will never stand for it.

The other course -- scarier and tougher than the first -- is to make a clean breast of the whole matter and admit that we have been operating under wraps for quite a while. Not too many people will persist with questions about why we have been doing this if we are prepared at once to outline a sensible program of change that will bring to bear on education of the young the knowledge we already possess. This is scary business for the administrator, who must advance and defend suggestions for change in the public forum; he doesn't know the history and the evidence that lie in the obscure literature of research -- but you and I know it because research is our business. If we want to pay off the lien that encumbers educational research, I think that
we should for a while put by our ordinary pursuits and teach the administrators all we know about human learning—pester ing them with it when they are not inclined to listen, interpreting it for them, repeating it to them, beating it into them, pouring it on their grists if necessary until they have absorbed enough of it to put it into practice in planning curricula, designing school buildings, training teachers, and exploiting resources.

If you can't quite picture yourself being this aggressive with your superintendent or principal, don't overlook the possibilities in blackmail. There's hardly an administrator alive who won't at least listen if you say, "I sure hope that those nosy reporters don't ever get hold of a good translation of Jerome Bruner." OR ... "The Rotary Club wants a speaker to discuss the relationship of early learning to school drop-out and I thought maybe Superintendent Jones from the next county would ...." Choose your own weapons.

If your missionary work with the administrators succeeds, you will, just as naturally as anything in the world, fall heir to teaching the same things to the teachers. This is no easy job, as you know. One-fourth of the teachers will hate you rather actively because teaching them something new inevitably will cut into their free periods or keep them after school without the compensation of graduate credits. Half of the teachers will glaze over automatically, smile sweetly at anything you say unless you ask them a direct question, and leave your training sessions no wiser but much rested. About one-fourth of the teachers will listen to what you have to tell them, will perceive its importance, will learn as much of it as you can teach them, and will apply it in ways that will change their pupils. And when one-fourth of the teachers change their methods, even slightly, the vast corpus of education itself is changed. The teachers who constitute this one-fourth of the group are the teachers who lead the field, now and in the future. They are the ones who are or will be the heads of departments, the supervisors, the presidents of professional associations, the speakers for PTA's, the trainers of succeeding generations of teachers, the wives of mayors and congressmen. So ... if you gain access to the teachers with your gospel, and if you teach them with zeal those precious few truths we know about human learning, education will change and will do better the task it was intended to do.

I summarize. Education in the United States customarily has lagged behind its own research evidence by a generation. This has been possible in part because the public that is presumed to control education has been neither privy to the research evidence nor fully understanding of it. In
the special circumstances of Project Head Start, scattered American educators displayed all sorts of skills and methods and ingenuity that the public didn’t know the profession possessed. The cat is out of the bag. Now almost all educators will be expected to organize their elementary schools with as much obvious good sense as those who had successful Head Start centers did. The catch is that the knowledge with which to do this is pretty well buried in non-English-speaking journals and ratty old research reports and even word-of-mouth folklore known only to psychologists and researchers -- so it needs translation into a common language that permits action. The Translation, it seems to me, is a job that demands the attention of educational researchers. "Pause in your research," I say to the brotherhood, "just long enough to tell teachers and principals and parents and boards of education and taxpayers what you've already found out."

This plea has more than rhetoric behind it. I only looked back once, so I don't know what it is .... but I'm sure that, whatever it is, it is gaining on us.