

A CHALLENGE TO EDUCATION: THE COURAGE TO CHANGE

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Inequalities exist in education. I doubt that anyone would argue this point. We are particularly aware that inequalities in education and employment stem to a great extent from inequalities in the socio-economic levels of our citizens. The concern we share is how to "break the cycle" of poverty, and the belief we share is that this can be accomplished by increasing educational opportunities.

Some of us may disagree on how to accomplish this goal. I would like to share my biases on what I feel are some of the major problems in education that tend to perpetuate inequalities regardless of the passionate interest in, and the amounts of money and time spent on, a very good cause.

As teaching is multidisciplinary, so is learning. We all learned in our educational psychology classes that a child must be physically, emotionally, and psychologically healthy in order to learn. The school, however, stresses cognitive development, and most educational evaluation concerns itself with cognitive learning. The dictionary describes "cognition" as "the act or process of knowing, including awareness and judgment". "Cognitive" is defined as "based on or capable of being reduced to empirical factual knowledge."

There would be little argument that "the act or process of knowing, including awareness and judgment" is an important contributor to equalizing opportunity, but only a contributor. The question is, what array of skills provides equality in education and employment? Do educators and assessment groups concern themselves with the attributes required to achieve these skills?

When discussing children from disadvantaged socioeconomic groups, several questions arise. How can we get more of them into school? What non-formal programs can we develop to reach children in remote areas? What technology can we use — and how — to equalize opportunities?

All of these questions address the question of a delivery system. Little attention is paid to the readiness

of the child to learn from that delivery system. Most school testing is concerned with *what* the child has learned — not *why* he or she has or has not learned. But teaching-learning strategy must consider all aspects of the learner — physical and psychological as well as behavioral. A holistic approach to assessment and teaching is required.

A holistic approach would assess deficits in the learning process. In other words, before beginning formal education, a child should be tested for possible physical, perceptual, and psycholinguistic problems that would impede learning. Assessment of the integration of visual, auditory, and kinesthetic senses would be particularly important. Therefore, it would be important to test these aspects at critical points during the school years, particularly for children having learning problems. The fundamental role of these tests is to diagnose deficits (or to predict them) and to remediate (or prevent) them.

Efforts to improve cognitive skills are doomed to failure if process deficits are undetected or ignored by educators.

It is quite common in teaching reading to attack reading problems strictly on a cognitive basis. I know of many schools where children with reading problems are given special instruction in phonics, eye movements, and so forth. There is usually some improvement, and there are cases where improvement is dramatic, usually because the problems were caused by poor reading instruction at the introductory stage. To assume, however, that there is only one problem or one solution is a great disservice to the thousands of children who are handicapped by process deficits such as perceptual, psycholinguistic, or neurological problems. In these cases, the time and energy spent on cognitive-based intervention will not succeed; it will only compound the child's problem and undermine his self-confidence further.

For example, reading is a process of auditory and visual integration. Educators have ignored this critical

process. Only in recent years has attention been focused on the integration of the senses, most specifically in relation to children with dyslexia.

In brief, rather than using the holistic approach for assessing the student's ability to learn, most schools use only a behavioral model. Tests may be used for diagnosis and remediation of specific cognitive deficiencies in completing the academic tasks specified by the curriculum. The remediation is usually approached by breaking the tasks down into the smallest units possible. Process deficits are ignored. When one considers how many school-age children are classified as "underachievers," one must also wonder how much of the "disability" or low achievement is due to undiagnosed or, even worse, misdiagnosed causes and consequently inappropriate remedial instruction strategies.

Frequently, proposals to reconsider what education should accomplish meet with resistance from administrators, teachers, and evaluation specialists. Change is threatening; change is uncomfortable for those who must shift strategies to something unfamiliar. A common avoidance technique is to say, "We would have to get a large grant," or "We would need more personnel."

A number of relatively recent research projects have indicated that a great deal of money is *not* required to improve educational opportunities for children who are not achieving to their potential. A number of summaries in the ETS Educational Resources Information Center (ERIC) and the Sociological Abstracts data base support this contention.

The Board of Education in a suburb of a large city adopted a performance objective resulting in significant improvement of elementary- and middle-school students' reading skills. Administrators were responsible for assessing all available resources and for rethinking the use of all personnel. Two hundred and fifty parents were trained as volunteers to teach reading to no more than two or three students at one time. The role of the remedial reading teacher was redefined from that of a remedial teacher to that of a consultant.

Tests were administered by the school psychologists and the learning disability teachers to detect any perceptual problems. Physical education teachers conducted special sessions for children with visual or coordination difficulties, inservice workshops were conducted for teachers in cooperation with local universities and a handbook with suggestions for reading activities was developed for parents.

The results were: 90 percent of the first-graders achieved at or above the 90th percentile on a nationally normed test (Gates-MacGinzie). The number of second, third and fourth graders remaining below their grade levels in comprehension was reduced by 60 percent. Middle-grade students made greater positive change.

The budget was \$5,000.¹

Under a grant from the U.S. Department of Education, one state developed a manual for remediation of perceptual handicaps in early childhood. It provides information on identifying child development problems, testing procedures, and training procedures. The manual also includes lesson plans and a list of instructional ma-

terials including techniques that were borrowed from the education of deaf or aphasic children.

This manual, appropriate for use by parents or nonspecialist teachers, is available for \$14.00 for hard-cover book or \$.83 for microfiche.²

Setting the Standards

The very concept of evaluation and assessment assumes that there are standards against which to measure individual performance. There is a basic assumption that, at a given time, there are certain skills and certain information an individual should have mastered. School syllabi are based on the same assumption.

Several questions arise when one considers standards: Who determines what the standards are? What body of knowledge does someone need to know in order to maximize his or her opportunities? Are the same standards appropriate for everyone? Are they academic achievement? Are they life skills? Employment skills? School skills? All of the above?

If one were to research "time on task" (credit to Dr. Bloom) in the schools and investigated the various syllabi, it is a fairly safe assumption that the greatest proportion of time is spent on subject-matter achievement. Reading, writing, mathematics, science, history, and geography are certain to be found as major elements of school curriculum throughout the world. Not only were these subjects decided to be the important components of education, but someone, sometime, in each country decided what the important aspects of these subjects were and how much of the content students should master by a certain age.

At the risk of sounding heretical, I question whether a great deal of time in school is not wasted. I wonder how many of us would be willing to take a school-leaving examination now? Research has shown that we retain approximately 15 percent of the subject matter we learn in school.

Because we frequently are unable to rationalize including a subject in the curriculum, we vaguely ascribe "other" benefits to it. I remember my high school teacher telling me that studying Latin would give me a better grasp of the structure of the English language. In my study of astronomy and geology, I was told I would have a more profound understanding of the world in which we live. Perhaps I did develop a more general awareness, but when I think of the hours of study I put into these subjects and how much — or how

¹ Garvelink, Roger H. Administrators Can Help Meet Reading Improvement Objectives. *Reading Horizons*, 1976. 16 3 Spr. 154-156. Reading Center and Clinic, Western Michigan University, Kalamazoo. (Sociological Abstracts 7704311)

² Jordan, Ethel S. *Developing a Child's Potential*, Idaho State Dept. of Education, Boise. 72. Sponsoring Agency, Bureau of Elementary and Secondary Education, Washington, D.C. (ERIC ED 133919, EC 062039)

little — I retained, I sense a great loss of valuable time. I believe that I could have learned what I have retained in roughly two hours. Furthermore, I have sufficiently adequate reading skills to look up anything I need to know about these subjects at any time I need to know it.

Do I suggest eliminating these subjects from the curriculum? Not at all. I believe that for certain students they are appropriate. Perhaps for all students, some basic information that will develop more awareness is required for good participatory citizenship, and some basic knowledge of these areas is important. I do not believe that time should be spent on these subjects at the expense of other, more important skills that are often left out of the curriculum. That only happens because sufficient thought has not been given to the skills required by all individuals to enhance their lives in their respective societies.

The Need for Curricular Reform

There must be a rethinking of the skills and knowledge an individual needs to maximize his opportunities. It may be discovered that problem-solving skills, interpersonal skills, the ability to locate information, and so forth, are more important to individuals than knowledge of, for example, the Napoleonic wars. To put it another way, the status attached to academic learning as opposed to other types of learning must be reconsidered. Are our curricula overly inflated with courses based on the trivium and quadrivium? Should we be sure that college is necessary for all?

We have heard much in recent years about a "return to basic education." In fact, many funding agencies have instituted educational projects with "basic education" as the key words in their titles. In the U.S. there has been a "back to basics" movement, and basic education is also referred to as "development of survival skills." There is common agreement that reading, writing, and arithmetic are the basic tools required for survival in today's society.

The problem with this assertion is that it does not go far enough. We need to add problem-solving skills, discriminatory listening, oral communication, the ability to read intelligently for different purposes, how to locate information, interpersonal skills, and self-knowledge of interests and skills. In many parts of the world, particularly in rural areas, I would add "entrepreneurial skills."

Certainly, the ability to solve problems is a particularly valuable skill for all ages and for many purposes. Teaching problem solving not only helps children to handle personal dilemmas and develop good interpersonal skills; it also helps adults, such as rural farmers, to make well-considered decisions regarding the future productivity of their small farms and to assess the risks involved.

Regardless of age, the students being taught are themselves the curriculum for teaching problem-solving skills effectively. To illustrate, a child may offer a problem to be solved; one that is either personal or representative of the age group. In the case of a child from a rural area the following may be offered: When return-

ing from school, I must help with the work. After dinner I must take care of my baby brother. I also have homework to do.

The problem is written on the blackboard or on a large piece of paper, whatever is available. Three columns are listed. The first is headed "Possible Solutions." Children are encouraged to offer solutions, and all are entered in the column, regardless of the teacher's perception of their merit.

In the second stage, children are asked to consider what the short-term consequences of each "solution" might be. These are written in the second column beside the "solution" which was considered. The same procedure is followed for the third column, which deals with "long-range consequences."

After considering the possible short- and long-term consequences, each child is asked to decide which appears to be the "best" solution for him or her. Children learn how to compromise, manage time, and establish priorities. Most importantly, a pattern is built whereby actions are considered in terms of possible consequences both on short-term and long-term bases.

In the case of the problem cited, column one may elicit "solutions" such as "do the work" and "watch the baby brother," or "do homework and watch the baby brother." Usually someone will say, "Do all three things and go to bed later." The possible short- and long-term consequences are quite obvious so I will not detail them. You learn, however, that children can do some quite sophisticated thinking when they are asked to create. It would not be unusual for a child to propose that the work be done after school and that he or she could arrange to do the homework with baby brother close at hand. Children are very resourceful in proposing activities to keep baby brother occupied while they do their homework.

The same process is followed with adults. Rural farmers may, for example, consider the problem of deciding which of two crops to plant, what type of seed to plant, what type of fertilizer to use, whether to invest in some type of irrigation or a new farm implement, or whether to start or join a cooperative. In this case, consequences are usually financial.

This technique clearly teaches responsibility for one's own actions and fosters an internal locus of control. It can be applied to any problem, be it personal, social, or economic. The technique is particularly useful in working with individuals who are skeptical of "new ideas." It provides a feeling of taking part in the decision-making process and forces the individual to consider the pros and cons of changing as opposed to maintaining the status quo.

Both problem-solving and interpersonal skills may be taught through role playing. Children and adults find it to be equally interesting, enjoyable, and informative. Two children having an interpersonal problem are asked to reverse roles and to "be" each other. Adults, such as those in a rural cooperative who are considering applying for funds from the government or a foundation, are asked to take turns "playing" the official and to ask the questions that *he* or *she* would ask if he or she were the one being asked for funds. It is particular-

ly important for the instructor to take part in these little vignettes to put other participants at ease.

I don't mean to belabor how to teach the various skills that all of us require to function to maximum capacity in our respective societies. The point is that, when we talk about survival skills and development of competencies, we have missed the mark if we do not include problem-solving skills, interpersonal relations, how to locate information, how to communicate orally, and how to listen discriminantly.

The other point is that the curriculum for these skills is *in the students* themselves, regardless of age. It does not take a grant or hours of effort to develop it.

Teacher Training

Teacher training programs must be redefined to emphasize the sequences of child development in motor, sensory, perceptual and language conceptual development.

We must inventory the education resources at our disposal in our respective countries and redef by those resources for maximum benefit:

- The use of parents and student teachers and peer teaching.

- The use of churches, public buildings and homes as schools.
- The use of school playgrounds or neighboring parks for science or agricultural projects.
- Mobile facilities for screening learning problems.
- Consideration of higher salaries for master teachers in remote areas.
- Need to assess experiential learning.

To summarize, if educators and evaluators are serious in their efforts to enhance educational opportunities, they must look at education from a broader perspective than independent cognitive development and the focusing on the delivery system as the sole means of remediation of learning problems. Attention must be directed to the physiological and psychological aspects of learning, and identification, intervention, and remediation strategies must be developed.

Man is a complex being. Many factors interact to improve or impede his learning. Yet education stresses just one aspect of development. With our current knowledge of how individuals develop, and of the teaching-and-learning strategy, we could indeed enhance educational opportunities for individuals at all socioeconomic levels. All that is required is for education and testing to join forces and use present resources creatively.