

Many factors influence

Achievement

—and its assessment.

ACHIEVEMENT, as we measure it in our schools and as we reward it with marks given, is too narrowly conceived. Modern science has shown us in many ways that no area of knowledge and no target of investigation is as simple as we once thought. Recent studies of individual differences in terms of cognitive process and styles of learning, as well as research related to needs, interests, and value systems have revealed some of the variables with which evaluation of achievement must be concerned.

Similarly, assessment instruments no longer are confined solely to the simple, fact-oriented, lower-level-cognitive-process achievement test. The old "marking" yardstick based on text mastery plus recitation and test performance is clearly no longer adequate. Yet in far too many school situations these old patterns prevail. It is imperative that the concept of achievement be expanded and that the variables held to be indicators of school achievement be augmented and reconsidered.

The matter of giving school marks, teacherous as external evaluation is,

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may not be as dangerous and ill-considered a practice as the limited bases on which these marks are given.¹ All too frequently the student's marks are based on a teacher or text or curriculum standard and not on the student's ability to do the work. There is an implicit assumption that all students are equally able to do a given assignment if they are old enough and in the right grade. Only rarely does a student seem to be evaluated on the only basis that can be meaningful—is he doing well what he is able to do and is he improving at a rate which seems consonant with his particular growth pattern?

Individual Differences

Student differences which must be considered in any marking system that purports to be fair or accurate include proficiency level, rate of learning, preference for style and kind of learning, need patterns, interest areas, and value systems. This is not to be taken as anything

¹ If—contrary to the psychotherapeutic idea of internal locus of evaluation—school progress *must* be evaluated by individuals or devices other than the learner, it is my belief that this evaluation must be made with reference to the present performance pattern of the learner.

more than a partial listing.² Similarly, the following review of these points is not an exhaustive survey but is rather a suggestion for a way of thinking about the achievement process. It was stated that these factors are basic to achievement and thus to school marks and that teachers must keep such qualities in mind as they evaluate students. It is not suggested that these characteristics be graded objectively and quantitatively.

The fact that achievement is a relative thing can be clearly seen when statistics on levels of achievement in relation to grade level placement are compared. As students get older and receive more education, they become more different one from the other. Nearly all first graders are nonreaders and noncomputers (although some have only the readiness of two-year-olds and a few are quite literate and already read the newspaper and do long division). By the time students enter the fourth grade there are some who are still nonreaders and noncomputers and others who can read the words as well as the pictures in the *National Geographic* and who are working through algebraic concepts on their own. And at age fourteen, it is typical to find reading and mathematics skills ranging from a shaky first grade level to a through-the-ceiling-of-the-intermediate-test college level.

In general, everyone knows that differences exist, but operational acceptance of these differences in terms of expectancies as well as of teaching and marking practices is another matter. Explanations and examples must be given to all groups at all levels.

² Research in all of these areas has been carefully reviewed but the nature of this article does not permit references to primary sources or an evaluation of the studies considered.

Teachers may comment to overeager parents that if their two-year-old Johnny is not as tall as his like-age cousin they would not put him on a Procrustean bed and stretch him nor would they get a "talking tutor" if three-year-old Mary is not as fluent as her small neighbor. Reading and school learning in general are even more complex than growing or learning to talk and, thus, differences in growth rates are greater. School people must understand this and help parents to comprehend and accept these facts of life. A parent whose six-year-old is given a failing mark because the youngster lacks reading readiness, and another parent whose gifted twelve-year-old receives low marks because the boy just cannot force himself to do 50 all-of-a-kind long division problems (a process which he had mastered at age six) *are not being helped to understand individual differences*. Schoolwork and evaluation must have relevance to children's abilities if "meeting children's needs" and "working with children where they are" are to become something more than banal clichés found in textbooks and articles.

Achievement Is Relative

Achievement is not only a relative thing when we look at it in a static sense, i.e., take a cross-sectional picture of a given group on a given day, but it also must be viewed relatively when we consider achievement as a process. In other words, rate of learning (as well as the level at which the learning is done) must be considered before any fair judgment of achievement can be made. Some children learn very rapidly and some are truly slow learners. One child may seem to learn by half exposures and almost without teaching, developing an extensive reading vocabulary by association

and generalization, e.g., the words, run, runner, running, quickly take their places in a concept of movement and the teacher does not need to point and say "word family."³

Another child may have to be told that those squiggly black marks are words, that we hold our books so lines run horizontally not vertically, and we turn pages rather than tear them out. All the children may seem, at D-Day First Grade, to be on the starting line together as nonreaders but their progress will vary dramatically. Specialists in reading know that some six-year-olds need 80 exposures before they can reliably tell an "a" from a "the," while others apparently learn new words by conjecture and osmosis and need no repetitions.

Coaches have long been aware that practice is important but that for natural athletes practice becomes a wasteful procedure unless it is at an appropriate level. Some boys hold the bat correctly the first time they step into the batter's box and girls have been reported to mount correctly the first time they encountered a horse in the flesh (perhaps they learned from television). Music teachers both despair and rejoice over their students who can reproduce an intricate composition after one hearing, and mathematicians and scientists shake their heads over students who "intuitively leap" to right answers, spurning the step-by-step, algorithmic process.

No discussion of achievement can be complete without examining the product on the basis of which achievement is inferred (test answers, workbook or seat-

³ We do not know how or why children learn, although there are many interesting conjectures abroad. We do know, however, that children of the same age and placed in the same grade, apparently with similar expenditures of effort, learn at vastly different rates.

work accomplishments, term papers copied from encyclopedias, etc.). Careful examination of much of this that passes for achievement indicates that it is what Bloom has termed lower-level cognitive process or fact-learning. Only rarely do we see assignments (and the evaluation thereof) providing for the higher cognitive processes—integration, synthesis, creative and critical thinking. Yet "learning to think" is a universally accepted aim of education. It is simply that we too rarely make the effort of translating it into operational terms—it remains a pleasant-sounding phrase.

Problem Solving

If the school is to develop students who can participate meaningfully in their society and is to translate the objectives of education (to think and to care) into practice, then the concept of school achievement must be broadened to include problem solving and creative and critical thinking in many forms—certainly in reading, writing, and oral discussions. Teachers in using oral approaches, beyond the lower-level, drill procedure of the recitation, should explore the possibility of free discussion (what I like to call the "conversational dialectic"), inquiry training (Suchman), Socratic questioning (Oliver), and other "discovery methods" such as Beberman's.

Discovering answers for oneself and putting ideas into one's own words are achievements that will last much longer than learning by rote repetition. Perhaps the most noteworthy achievement a child can make in this realm of looking "beyond the text, the test, and the recitation" is an interest in learning. Letters or reports to parents should include places for teachers to note that "Johnny asked a good question today," "Mary discovered

that the textbook method of solving one of the problems was less efficient than one she devised," and "Randy seems to be truly interested in learning for learning's sake—he has now read ten articles on experimental work on the drosophila and has sent three letters to outstanding geneticists."

Developing this taste for learning is not universally accomplished as studies of library usage show but, if it is accomplished, it will help school children to become what every good citizen in a changing society must become—a lifetime learner. Too rarely do we make note of or give recognition to independent seeking behavior such as Randy's. Yet this is learning or achievement motivation that will be much less transitory and much more applicable to real life learning situations than will any text memorization. People do not read texts or solve the problems from page 10 to 15 in adult life; they do need, however, to make choices from among several alternative possibilities and they should be able to talk interestingly and clearly and read critically and avidly.

Needs and Interests

We must be concerned, in planning for meaningful education for all of our children, not only with the demands of society and with the skills that will make a "good life" possible but also with students' need patterns. Students' needs vary as markedly as do their levels of competency and their rates of learning. After a number of years of studying the full range of student learners from the very slow to the very able, I have concluded that slow students are essentially deficiency-motivated while able students are growth-motivated. Basic needs for success, recognition and acceptance are

often not met for slow learners. School becomes a place, often even for the first grader, where the nonachiever who does not do well in terms of test and textbook accomplishment feels unsuccessful, unrecognized and unaccepted.

In Maslow's discussions of the "hierarchy of needs," he has concluded that until these basic needs have been satisfied, an individual's behavior must remain largely "deficiency motivated." Such a student does not become self-starting and autonomous (characteristics of the growth motivated), for the school does not provide him with tasks which he can master and from which he can get satisfaction. On the other hand, able students generally find school a satisfying experience with ample rewards in terms of good marks and other achievement recognition. More often than not they want the stimulation of difficult assignments and the excitement of the unknown. Achievement demands and challenges must be varied according to the needs of the students.

Individual differences in the realm of interests are usually recognized and sometimes taken into account in teaching. Achievement varies widely with respect to these interests but we have not done the obvious and differentially given opportunities and credit for achievement in areas of interest. A boy who reads a paragraph in a second grade reader in a halting, stumbling fashion may easily comprehend the much higher level sports page and *Hot Rod* magazine. Unless teaching materials and achievement expectancies are varied, teachers will not discover these special abilities. The level and range of offerings must be wide enough to capitalize on many interests.

A gifted high school senior may comprehend and enjoy Freud (this should be acknowledged as achievement) but seem

completely blocked when presented with *Evangeline*. Individualized reading programs at the elementary level which present children with a great range of books (diverse interest areas and reading levels) to choose from acknowledge these differences.

If we are to encourage the development of the diversity needed in a pluralistic society, achievement recognition must more often be given in areas or on topics to which the student is drawn. Probably the best work in science is done on self-chosen projects in off hours at home in the basement. Undoubtedly the best poetry is written by the writer's, not the teacher's, schedule—the garret may be ideal. For such work, achievement at its best, neither credit nor kudos, is necessary.

Influence of Values

Value systems are related to interests and perhaps even more strongly influence what a student considers to be achievement. This differential viewing of achievement seems to increase with age. By ninth grade level, we have been able to clearly distinguish at least three value systems among students.⁴ Each achieves and values achievement in his own terms. Among academically talented a large group (usually over half in our studies) accept the school's values and classify themselves as studious—good students. (Only about a fifth of our average students are equally interested in studying and pleasing teachers.) On questionnaires and value scales these students indicate they have a large amount of

Protestant Ethic, think working hard and following someone else's directions is a good in itself. There is little evidence of adolescent rebellion in members of this group. They shine particularly in terms of achievement as the school has defined it.

Another group which we have termed social leaders seem to value achievement mainly of the kind that the bulk of American society prizes—political and economic power. At the adolescent level this appears as budding materialism and hedonism. As McClelland has conjectured from his studies of the achievement motive, here is a group with the "entrepreneurial spirit." Our interview and questionnaire data from this group (we have called them social leaders) indicate that they want school to be easy and prefer friendly "hail-fellow-well-met" teachers to the more academic and demanding types. They achieve in school by holding offices, being popular and, if possible, leading the crowd in materialistic displays. Considerably over half the general run of students describe themselves in this manner while about one in five of the gifted students say that these are their basic values.

A relatively small group of students in our schools seem to be genuinely interested in learning for learning's sake. Theirs is essentially a world of ideas. Often they are relatively unhappy with what the school has to offer by the time they are in junior high school. Only a small percentage say they have found teachers with deep commitment to learning and who encourage students to learn on their own, although this kind of teacher, who can serve as both model and encourager (neither function alone is quite sufficient), is the one they admire and seek out. They rarely find schools where the climate or the schedule is right for phil-

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⁴ Elizabeth Monroe Drews. "A Critical Evaluation of Approaches to the Identification of Gifted Students." *Measurement and Research in Today's Schools*. Arthur Traxler, editor. Washington, D.C.: American Council on Education, 1961. p. 47-51.

it means to be a human being, and thus to be an individual. If we do not have a proper sense of our humanity, how can we hope to be more than the one-dimensional tool of those who do have this kind of sense?

We are caught in a time in which our leaders seem to be saying to us that the means of power are to be found wholly in the sciences and technology, and that the whole expression of power is in the economy. Yet if there was ever a country that was formed on something more than this, ours is that country. If there was ever a people who ought to know the power of an idea, powerfully developed (which means esthetically developed), we are that people. If we go on making the mistake we have been making as a nation in this field—the mistake of believing that power consists only of sci-

ence, technology, and economics, we will inevitably become more and more like the Russians, for this is the communist's basic creed. It is up to us in the schools to bring this stupidity to an end.

As I say, it seems clear enough that we are heading into a period of unparalleled national strain. Our only hope is to join with the younger generation and rediscover ourselves as human beings and as individuals. We have to give ourselves both the right and the means for self-respect and mutual respect, if we are to survive as human beings. We of the schools have the means, if we will, for reversing the trend that our country is in. If we fail to do so, we do not deserve the pity of those who will follow us.

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osophical discussions and group consideration of crucial issues (overpopulation, euthanasia, peace, etc.). Nor do they find adequate libraries and time allotments for independent study.

Most of this group are already committed to lifetime learning. Reading is at once their trademark and downfall. They read while teachers teach (not an endearing practice) and they often read advanced science books instead of preparing tomorrow's grammar lesson. Some of the students in our research do as much as 40 hours of extracurricular reading a week and can speak with encyclopedic depth on multiple subjects. Yet in terms of school marks, if we are to consider this to be the measure of achievement, these pupils often do poorly. They fare much better on achievement tests—probably better than any other group of

students—for, although memorizing facts is anathema to them, they do pick up a surprising number of these as they read and discuss.

Marks given in the usual sense and based largely on a single standard can in no way take into account the many factors that are aspects of achievement. If marks or ratings are to be used, the only fair standard is one based on the individual's present level of accomplishment and on his progress. A conventional setting of fact-learning (text-memorization-test), however, supplies only a fragment of what should be the whole of an education. Discussion, writing, reading, and all manner of activities that allow for self-instigated problem solving and creative work must be provided. These will give students opportunities to discover themselves, find ways of meeting basic needs, unveil and explore interests and examine values.

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