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ABSTRACT

The first section of this paper on educational standards considers the nature of the school curriculum as the shaper and delimiter of what is demanded of students. Debates over the desirability of a common or core curriculum for secondary schools as opposed to different programs are discussed. Demands for traditional academic disciplines and for vocational education and the way in which the changing needs of the labor market shape the school curriculum are examined. In the second section, tests and examinations as instruments of standard-setting are discussed. A distinction is made between those tests which monitor achievement but do not motivate or guide study, and those for which schools prepare students and which influence both the content and achievement levels of each course. The nearly complete absence of European-style examinations in American schools is documented and its implications for educational standards considered. Comparison is made between the American approach to student assessment and that of France and England. Suggestions are made in the final section on ways of improving standards in the American schools. (JD)

Standards, Curriculum, and Performance: A Historical and Comparative Perspective

A report to the National Commission on Excellence in Education

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Although there is widespread public concern about the standards of our schools, there is little consensus about the sources of our difficulties and the ways in which they can be remedied. The litany of complaints runs from the lack of homework in elementary school, through the meager number of advanced courses offered in secondary schools, to high school graduates who can barely read and write. These complaints are too numerous to be dealt with piecemeal; together they signal a set of fundamental problems whose common sources must be recognized if we are to act sensibly to improve the quality of public instruction.

In our view, two elements have the largest role in shaping what is demanded in schools, and therefore what students can be expected to learn. The first is the curriculum--what is taught. The second is assessment--the way we judge what is learned. Neither of these has received appropriate attention in the current debate. This paper addresses both issues in a historical and comparative perspective, before considering the kinds of reforms that are likely to meet our current needs.

Our argument is developed in three parts. The first considers the major debates over the make-up of the curriculum during the past century and particularly the problem of maintaining a common core curriculum in a comprehensive high school. In this part of the paper we also look at the relationship between tracking and standards, raising the troubling question of whether a nation committed to democratic access to all levels of education--and therefore to minimal tracking and selection--must necessarily accept in return lowered levels of educational achievement. A second section considers tests and examinations as instruments of standard-setting. An important

distinction is made between tests, which monitor achievement but do not motivate or guide study, and examinations, for which schools prepare students and which therefore influence both the content and achievement levels of each course. We will document the almost complete absence of external examinations in American schools and consider its educational implications. Finally, in the concluding section we suggest some possible ways of improving educational standards in American schools, based on an analysis of the relationship of curriculum and tracking to assessment and student performance.

I. Curriculum as a Definer of Standards

What is taught in school is, of course, a major determinant of what is learned and therefore of educational standards. For this reason, our discussion of educational standards begins with an examination of the school curriculum. What is taught is a function of many influences and many pressures. These include perceptions of educators about the interests and capabilities of students; views of scholars and other experts as to the kinds of knowledge that reflect the structure of a discipline or the requirements of a task; and various factors outside the educational world that influence who is in school, what resources are available for instruction, and what students will be expected to know when they leave school. We shall consider each of these factors and their interactions in our discussion.

A. External Influences on the School Program

We begin our discussion of curriculum as a definer of educational standards by considering two decisive and related factors--one demographic, the other economic--that have influenced the school curriculum over the past century. The first concerns the portion of the age group attending high school; the second involves the job market for school-trained skills. Each can be expected to continue to influence the curriculum over the next two decades.

Changes in the school population. A great shift upward in secondary school enrollment occurred between 1880 and 1930. At the beginning of this period, less than 10% of 14-17 year-olds were in high school; by 1930 that figure had jumped to over 70%.[1] Several developments contributed to this growth, which began more than a half-century before the explosion of secondary school enrollment in public institutions in Western Europe. Child labor and compulsory attendance laws played some role in this growth, but because enforcement was uneven and often entirely lacking, those laws must be considered more as expressions of emerging norms than as effective constraints. A significant positive element was the new willingness of parents to leave their children in school beyond the age of 12 or 13. This change in attitude and expectation was linked to the emergence of more job opportunities that favored applicants with longer years of school attendance. During the period 1890-1918, total school enrollments grew at a rate ten times that of the total population.

Virtually all American young people now attend high school until age 16, but almost 25% of those who enter high school still do not graduate. Telling arguments to reduce the drop-out rate are made on economic, social, and moral grounds. However, retaining large numbers of today's dropouts through the entire high school course means including in the student body during the final two or three years of school those students who traditionally have been the most disaffected, underprepared, and underserved. Furthermore, powerful demographic variables point toward an increase in the proportion of students who come from families that are themselves not well acculturated to school demands. This is the result of a substantially higher birthrate among the poor--including racial and linguistic minorities and recent immigrants--than among the better off and more established portions of the population. The need to adapt curriculum to changing populations is thus far from over.

Changes in the job market. The second major external factor affecting the school curriculum has been a series of structural changes in the workplace. Between 1880 and 1920, the United States began to move away from a reliance on farming and small-scale industry and office work as providers of jobs.[2] This trend was accompanied by a reduction in the need for skilled workers and a growth of demand for the semi-skilled. At the same time there was a large increase in demand for those who could do clerical, managerial, and supervisory work. More and more people were needed to deal with an accumulation of written communications--to prepare, process, type, file, and retrieve them. Paperwork jobs, of course, were the kinds for which schools--with their emphasis on verbal and numerical competence--could effectively prepare students.

This shift in the nature of work has continued. Although white-collar workers were less than 10% of the work force in 1870, they made up close to 50% in 1980.[3] Furthermore, technical jobs that once were considered blue collar increasingly demand literacy skills associated with white-collar work. The growth of this technical sector is a result of heavy investment in research and development and, most recently, of increases in computer-related jobs.

The schools have been heavily influenced by these developments. Up to about 1930, the need for clerical workers was addressed directly by the high schools. Thereafter, the need for technical workers was met increasingly by post-secondary training. In the last ten years especially, with the spread of computer technology into all work environments, these changes in the job market have increased the pressure on the schools to develop their technical offerings, starting with basic studies in mathematics and science. Perhaps as important as any pressure for specific courses, however, is a general increase in the perceived value of schooling that the shift toward white-collar and professional occupations has produced.

B. The Schools Respond

How have the schools responded to the external pressures and tendencies just described? To answer this question, we must look backward at the high school curriculum over the past century. In the history of the curriculum of our secondary schools we can find a persistent set of tensions that have changed little in character over almost a century, and that are with us today as we consider the educational possibilities of the coming decades. One major question

about curriculum has almost continuously engaged the community of those concerned with the schools: Should there be a common curriculum for everyone, or different programs for students with different abilities, interests, and goals? Tied to this question has been heated discussion of the relationship of vocational subjects to liberal academic offerings and more generally of the appropriate content of instruction.

Although the framework for debate of these issues has remained relatively constant, the specific arguments have changed--shaped in large measure by the growth in size and character of the population and the demands of the job market. The reports and activities of major education reform commissions help to highlight the ways in which the central themes of the continuing curriculum debate took shape. These are: (a) the report of the Committee of Ten in 1893; (b) The Cardinal Principles of Secondary Education, presented in 1918 by the National Education Association's (NEA) Commission on The Reorganization of Secondary Education; and (c) the post-Sputnik curriculum reform proposals, responsive in part to the Conant report, The American High School Today, which appeared in 1959. We use these as points of reference in the discussion to follow.

A common vs. a differentiated curriculum. The first great debate over a common curriculum was launched in 1893 with the publication of the now-famous report of the Committee of Ten.[4] The Committee's observations about the secondary school program, and its notion of what the goals of a secondary school program ought to be, influenced debate about the curriculum for a quarter-century. When the Committee was organized through the disciplinary and consulting bodies of the NEA, entry into the colleges was the major goal for the high school graduate

and the colleges were the established monitors of the quality of the secondary school program. Variation in the quality of preparation of students coming from different schools was a major concern of the colleges. Through the Committee, the most prestigious of the older colleges and universities hoped to influence the academic programs of the secondary schools. They were joined in these efforts by the presidents of land-grant colleges and state universities, and by the leaders of private and public secondary schools.

Members of the Committee focused their attention on the problems they uncovered: no agreed-upon understanding of what should be taught when, or how; and high school diplomas whose meaning was difficult to determine. Time allotted to each subject during the school day was a concern in all the separate discipline reports submitted to the Committee for review and approval.

The most radical recommendation of the Committee was its insistence on a core curriculum of subjects in the high school. These were to be taught in the same way, with the same demands, for all students:

> Ninety-eight teachers...intimately concerned with the actual work of American secondary schools, or with the results of that work as they appear in students who come to college, unanimously declare that every subject which is taught at all in a secondary school should be taught in the same way and to the same extent to every pupil so long as he pursues it, no matter what the probable destination of the pupil may be, or at what point his education is to cease. (p. 39)

The Committee suggested that science, mathematics, languages, English, and history ought to be pursued in depth sequences--i.e., for several years in courses of increasing difficulty meeting three to five times per week. Students would have the option of pursuing classical, Latin-scientific, modern language, or English options but mathematics,

science, and history were to remain essential components in all four programs. The precise concentration was viewed as less important than the knowledge, habits, and methods of work represented by the total of 20 or so periods a week on comparably difficult subject matter.

For the Committee of Ten, it did not seem unreasonable to demand of all secondary school students--even those who might terminate their education at the end of high school--that they take a set of courses that were clearly college preparatory. This was because the members cherished an egalitarian ideal of access to higher education. They wrote, "It is obviously desirable that the colleges and scientific schools should be accessible to all boys or girls who have completed creditably the secondary school course" (p. 70). In the context of the time, this ideal could be met only if a common curriculum were followed by all. Only in this way would access to college be possible for students who were not to opt at the outset for a track labeled "college preparatory."

Vocational vs. liberal education. In the period between 1890 and 1920, the high schools were the most rapidly expanding sector of American public education. As more students stayed in school longer, they did so in an economy expanding to welcome those with school-learned clerical skills and other kinds of vocational training. This opened the way for the next curricular debate on the place of vocational education. Vocational education courses in home economics, shop, and drawing existed as electives from the 1840s on. And from the early 1860s the Morrill Act made it possible for extension agents to teach agriculture to rural farm boys enrolled in high schools. By the 1880s a full-blown vocational education movement had emerged; it grew even stronger over

the next several decades. The Cardinal Principles of Secondary Education, presented in 1918 by the NEA Commission on the Reorganization of Secondary Education, provided a theory and ideology for the place of the vocational program in the high school curriculum.[5] This report stressed the importance of flexibility, adaptation, and response to student interests. Its recommendations for the curriculum reflected the existing environment of the secondary schools, including the pressure for vocational offerings. The Commission members argued for both the need to respond to individual differences in abilities among students and for the importance of diverse programs within the high school.

The effect, only partially intended, of differentiated programs in the school was to reinforce social class differences. If it could be established that certain students--largely those of immigrant, small farmer, or working-class background--had aptitudes and interests that led them away from academic studies, it seemed reasonable to direct those students into the vocational track. There they were denied access to the mathematics, science, history, and language courses that had been the recognized core of the academic program. The rationale for this denial was that, for these students, any non-vocational courses ought to be related to the rest of their program and compatible in scheduling with the long block of time required by shop projects.

Funding for half-day shop programs that mandated a tracked curriculum within the comprehensive high school was written into the Smith-Hughes Act of 1917, promoted by a forceful combination of educators, manufacturers, and labor groups who were drawn to support of vocational education for rather different reasons.[6] The two- to three-hour vocational classes funded by the Act established the

separateness of these programs, all in the name of making students 14 years of age and older "fit for useful employment" in agriculture, home economics, trade, and industry. Over the years a very effective lobbying group has rallied Congressional support behind appropriations for these vocational programs. Although programs were modified--most significantly, the Second Vocational Education Act of 1963 called for preparation in general job skills rather than for specific occupational training--the difference in content between vocational and liberal offerings remained great.

Changing times and perceptions eventually reduced the perceived relevance of the Cardinal Principles, except perhaps among committed advocates of vocational education. In the wake of World War II and an increasingly technological economy, many educators and lay citizens began to press instead for more modern and rigorous teaching of the traditional disciplines--especially mathematics and science. Yet the concern for adaptation to a very heterogeneous high school population never disappeared. Indeed, it was strengthened by increasing sensitivity to the needs of minority and other poor youth. Thus, the tension between vocationalism and traditional disciplines as the center of the high school program remains with us. It will have to be confronted directly in anv effort to improve educational standards in our schools.

The need for scientific and technical competence. The next major effort to reform and update the high school curriculum did not come until after World War II. It was prompted by looming manpower needs that could not be met by existing high school programs in mathematics and science and by a long-standing concern about the general quality of

the academic program in the comprehensive high school, focused by the Conant Report.[7] The leadership of the curriculum reform movement of the 1950s came from educators and scientists, foundations, the College Board, the National Academy of Sciences, and--after Sputnik--Congress itself. It touched the majority of our schools, enlisted great numbers of faculty from colleges and universities, and established a fruitful and active involvement of high school teachers in curriculum development and discussions of how best to proceed in the classroom. An attack on the problem of low demand and out-of-date teaching was made in two areas: (a) the curriculum of mathematics, science, and eventually social studies; and (b) the training of teachers. Major curriculum projects were mounted with federal funds for both elementary and high schools, and teacher training workshops and institutes introduced new materials. Private sector publishers eventually took over dissemination of the products of this work, but federally funded workshops and institutes remained in place until a few years ago.

For students who were directly exposed to the new curricula in mathematics and science, there is no doubt that the experience was one of a more demanding and up-to-date kind of learning--in short, of a higher educational standard. Unfortunately, however, only a minority of students profited from this. A set of studies for the National Academy of Sciences indicates that the curriculum projects and teacher institutes of the late 1950s and 1960s had relatively little impact on the schools of the late 1970s. By then only a small percentage of high school courses--usually those aimed at the top academic track--still used the project materials. This portion ranged from under 10% in mathematics to perhaps 25% in social studies, and about 35% in science.[8] Traditional texts, which promote learning through reading and

recitation, continue to dominate the school market--although there are signs that the modernizing curriculum development projects have altered the scientific content of the texts, and that the efforts of the 1950s and 1960s are thus not entirely lost.

Perhaps more important than any particular curriculum, the desired depth sequences in the high schools have not emerged as hoped. Only a third of school districts require more than one year of science and mathematics, and only a minority of students will go beyond algebra or geometry in mathematics, and biology in science. Although there was some growth in registrations for chemistry and physics courses during the 1960s and early 1970s, there are now signs of a slight decline. At the elementary level, the problem of too little time allocated for mathematics and science persists. Only 25% of the states and 40% of the school districts in the nation require minimum amounts of time on these subjects in the elementary grades. Where there are district guidelines, they usually call for only 30 minutes a day for mathematics and about 20 minutes each for science and social studies.[9] Many of these guidelines were in place before Sputnik, and they have not been extended by post-Sputnik efforts to modernize the curriculum. Perhaps the most important defeat for the modernizers is the fact that science is still not regarded as basic knowledge in the elementary school program.

C. The Current Curriculum: Persistent Tensions

Our account of competing forces in curriculum has focused on successive sets of recommendations in order to highlight the issues addressed by educators. In practice, neither an absolutely common course nor a completely differentiated program prevailed. Furthermore,

within the common core, elements of both the traditional disciplines and the more practical orientation of the Cardinal Principles appeared. Individual districts and states have varied in the emphasis they have placed on different elements in the curriculum. Nevertheless, there is some pattern to be detected. The traditional disciplines are still required in some form for all students. The required number of such courses is often quite minimal, however; and in schools that have moved strongly toward elective curricula, the requirements can be met by a surprising variety of specific courses that tend to vitiate the apparent commonalities.

Furthermore, the actual content of courses in the traditional disciplines has been affected by the desire for a practical orientation. As a result, within traditionally-labeled courses in English, mathematics, science, and particularly social studies, there is often a fair amount of study of applications, of local concerns, of topical books rather than traditional literature, and the like. Such changes have been thought to have the effect of making these courses more accessible and more interesting to those with lower academic abilities or interests. It must be recognized, however, that as these more practically oriented topics are added to courses, some of the traditional and perhaps more demanding material is necessarily sacrificed--if only for reasons of limited time.

One result of the persistent tensions between common and differentiated curricula is that we have, but often fail to admit that we have, several different curriculum standards in operation simultaneously in our schools. Although everyone is expected to complete high school and to offer the requisite number of Carnegie Units

in order to receive a diploma, we have several different tracks or programs that students may follow--each with very different sets of requirements. Even within programs, we count Carnegie Units rather than specifying what is to be learned. Where specifically labeled courses are required, our system of counting credits often treats such courses as remedial arithmetic and advanced algebra as equivalent. Under these conditions there is no sensible way to address the question of curriculum standards in general. Instead, the question of standards must be assessed separately for different programs and different groups of students.

The college preparatory program. Let us consider first the college preparatory program, the one that presumably holds American students to high standards of academic and intellectual performance. Part of the complaint about falling standards in our schools concerns this very group; and there appears to be good reason for concern, even if the picture is not so bleak as some critics would have us believe. First, the amount of academic work that is required in our college preparatory curricula is considerably less than is required in a number of other countries. It is also less than we used to require in our own high schools, especially in foreign languages. This may be because--although a much larger proportion of students are preparing for college--the institutions that they will attend are much more diverse in their entrance requirements.

A catalog of the requirements, however, does not really tell the whole story. In looking more deeply, there are both happy and sad stories to tell. The happy story is the availability of demanding and carefully organized courses in many schools, particularly at the

advanced levels. Advanced Placement courses and examinations, together with courses inspired by the curriculum reform activities of the post-Sputnik period, provide for a level of intellectual engagement for some American high school students that goes well beyond what was available a generation ago. The sad story is that a rather tiny (although perhaps growing) minority of students take these courses. They are available in only some schools, and only some of the college-bound students choose to enroll even when they are offered. Further, in many schools the "basic" courses may be even less demanding than they look. The prevalence in some parts of the country of a "cafeteria" curriculum, in which short and optional mini-courses can be used to meet requirements in areas such as English and social studies, has created a situation in which there is very little quality control over the total package of a student's education--even though many of the individual courses and teachers may in fact be excellent.

There is, then, a sense in which even our very best and most academically promising students are not being offered as much as they might be nor asked to do as much as they could. The decline in SAT scores over the past two decades, which has been the source of a great deal of our concern about standards in our schools, reflects this. Although some of the score decline was probably due to the enlarged pool of students taking the test, declines in scores among the most able students cannot be attributed to demographic factors.[10] That decline in scores, on a test that appears to be responsive more to long-term learning opportunities and efforts than to short-term "boning up,"[11] must be a result of changing demands on middle-school and high-school students. While no statistical proof can be offered, it seems reasonable to assume that drops in verbal ability would result from the

smaller amount of time that high school students have been spending on academic studies. The total amount of time spent studying written language has dropped as a result of less foreign language study, the acceptance of courses on film and other non-print media as fulfilling the English requirement, and the less frequent demands for essay writing that now characterize our high school programs. Given what is now known about the relationship between time spent on a learning task and amount of learning,[12] it should hardly surprise us that there has been some decline in performance on a test that reflects a cumulation of verbal skills learned over many years.

The vocational curriculum. Vocational education, too, is in difficulty. The assumptions that originally underlay federal funding for vocational programs no longer appear to hold.[13] First, it is not at all clear that the schools are able to instruct students in skills that are immediately useful in the workplace or that they can do this better than companies that train young people on the job. Furthermore, with the rapid rate of obsolescence of technical equipment, it is not reasonable to assume that the schools could maintain equipment that represented the latest stage of workplace demand. The assumption that the secondary school is the proper place to train job skills is therefore brought into question.

Second, the advocates of vocational education programs appear to have made a false claim about the employability of their students.[14] In the current marketplace, large employers tend to seek workers who have two qualities: first, a general set of literacy skills in language and computation, which makes it possible for them to move up to more complex jobs by using their past experience; second, an ability to work at the

pace that a job requires, appearing at work on time, and otherwise showing satisfactory work discipline. Neither of these seems to be particularly well developed within the framework of a secondary school vocational education program.

To respond to this marketplace, the vocational student must be able to do everything that the student in the general academic program can, as well as vocational work. To move toward this goal, the vocational student would require a solid common program of instruction--at least through the age of 16--that offers the mathematics, language, science, and social studies necessary for success in more complex work environments. For school authorities, of course, this would mean a reaffirmation of the central role of these core subjects in both elementary and secondary instruction.

The general curriculum. It would be a mistake to imagine that our discussion of the college preparatory and vocational programs adequately reflects the state of educational standards in our high schools. The largest portion of our school-leavers and graduates elect neither the vocational nor the academic program, but are instead enrolled in a "general" course of studies. For these students there is even less focus and demand in the program than for college preparatory and vocational students. The latent strength of the general program is the obligation to fulfill area requirements in mathematics, science, social studies, and English. The actual weaknesses of the program are that these obligations may call for no more than a year of study in some of these areas, and that this year of study can take place in courses that make minimal demands on the student. The general program has no strong commitment to a core program, which would give it internally generated

goals and consistency of objectives. Nor has it accepted the kind of external monitoring (for example, by college admissions officers or employers) that shore up, however weakly, the academic and vocational tracks. In practice, therefore, the general studies track offers a diluted mix of academic and occasional vocational offerings. It is probably the program in which the "crisis" of standards is greatest, yet it is the program that often receives the least public attention.

D. Curriculum and Tracking

Our analysis of curriculum indicates that curriculum standards cannot be considered without looking at the different programs open to students in different schools. In particular, we must direct our attention to the three major tracks that describe the program of our high schools. Unfortunately, perhaps because of our democratic ideology and the ideals of community in our society, discussion of tracking patterns tends most often to focus on their social effects--the extent to which different grouping patterns preserve or create different kinds of economic opportunity and social values. Although these are important concerns, they are problematic: Despite decades of study and experiment, it is still unclear how different systems of grouping and tracking in schools affect social attitudes and opportunities. By contrast, the effects of tracking on the curriculum are obvious, and it is these effects that are of greatest importance to a consideration of educational standards.

Systems that group students by demonstrated academic ability permit a very demanding curriculum and demanding standards of performance to be set for the top groups. For the students in these top tracks, there can

be little doubt that standards are higher than they would be in a more heterogeneous class with a curriculum adapted to that heterogeneity. When the curriculum is adjusted to a population of mixed ability, the most able students are deprived of certain learning opportunities.

However, there are costs to tracking as well. Despite decades of rhetoric suggesting that alternative tracks were to be high-standard, qualitatively different options, there are few successes to point to in our country or in others. For the most part, tracking results in weaker versions of the top-track programs rather than in high quality alternatives for students of lesser academic talent or interest. Low expectations and dulled motivation among students in the non-academic tracks have been noted in sociological studies beginning in the 1920's.[15]

Where do American schools stand with respect to curriculum and tracking? We have compromised. Our rhetoric, our commitment to the comprehensive school, and our provision in most school systems of an undifferentiated high school diploma all suggest a decision against tracking. However, in reality we have considerable tracking in our high schools--even if not always formally so labeled. Comprehensive high schools usually house several quite different sets of courses in which expectations and standards vary considerably. In junior high school, on the other hand, there tends to be little curriculum differentiation. The curriculum here is relatively undemanding, to accommodate everyone in classes that are not usually grouped by ability. Some subjects--for example, foreign languages or algebra--may not be taught at all. Others are taught in superficial ways, serious study being delayed until ages at which more grouping by academic ability is considered acceptable.

This compromise probably results in our reaping the disadvantages of both tracked and nontracked systems, and the full advantages of neither. By delaying tracking until ninth or tenth grade, the advantages of a full six or seven years of study of academic subjects is lost to those who might successfully pursue such a course. Yet the tracks in fact continue to exist--effectively dividing our high schools into privileged and less privileged sectors. We have accepted lower curriculum standards--beginning in the middle school--in the hopes of a more democratic educational system. Yet it is not at all clear that we have achieved our social goals. The time has certainly come for a new consideration of the ways in which a country committed to real educational achievement for all of its children should deal with the related questions of curriculum standards and common versus different d programs. We will suggest some ways of addressing this problem in the concluding section of this paper.

II. Tests and Examinations

Tests and examinations have traditionally served as a major means of setting and maintaining educational standards. They do this by monitoring the performance of both educational institutions and the individual students in them. Appropriately used, they can motivate study and make clear to students and teachers alike what kinds of learning are expected in a given course of study. Cumulated across individuals, assessment results allow communities to judge whether schools as institutions are setting acceptable standards and helping students to meet them. In this section we discuss both the individual and the institutional monitoring roles of tests and examinations. We shall argue that the roots of educational testing in the United States

lie in efforts to gauge the success of the schools in their various functions, more than in efforts to monitor the performance of individual students. This emphasis, together with the American preference for objective scoring, has led to a choice of testing instruments and procedures not optimally suited to motivating and guiding individual study. As a result, we have as a nation failed to fully utilize the potential of tests and examinations as vehicles for maintaining educational standards.

A. Educational Testing in American Schools: Monitoring the Institution

Although the recent critical literature on testing has tended to focus public attention on the role of tests in selection and placement of students, there is abundant evidence that an overriding role of educational testing has been to serve purposes of public accountability, program evaluation, and institutional comparison.[16] A brief consideration of how educational tests were introduced and how they continue to be used illustrates the point.

Standardized tests in various school subjects were introduced into American schools in the period 1880-1920 when booming enrollments, large school-building programs, and the cult of efficiency in industry combined to encourage the schools to justify their performance in quantitative ways to local taxpayers. Short-answer and multiple-choice tests were viewed as cost-efficient and objective measures in which there might be some public confidence. At the time, standardization meant that publishers would provide information on how trial populations elsewhere had performed, and how the results might be interpreted. It was common for school administrators who used the variety of available

achievement tests to seek ways of comparing the performance of schools within their own districts.

The new short-answer standardized test was also employed to monitor the use of classroom time. Joseph Mayer Rice's articles in The Forum, 1896-97, reported on how instructional efficiency could be improved through use of the data gathered from tests. For example, in a sample of schools in which spelling was taught for varying amounts of time each day, it was clear that teachers who spent an extra 15 minutes a day on spelling were getting no better results in student performance than the others. Given the instructional monitoring function assigned to these tests, it is not surprising that they met with teacher opposition.

During the Progressive period even more traditional examinations, intended to monitor individual student performance and control access to selective programs, were turned into instruments of accountability. Until about 1910 most school systems selected entrants to high schools on the basis of entrance exam performance. Some cities--for example, Pittsburgh--used to release the results of these exams in ways that allowed readers to compare the effectiveness of different elementary schools in preparing students for the high school.[17] Administrators thus used this selection exam to keep elementary schools accountable for their performance.

During the interwar period a new enthusiasm for the potential of tests in matching educational programs to individual talents and interests developed. It was based on the perceived successes of the World War I Army testing program.[18] In addition to intelligence and aptitude testing used for selection and tracking purposes, there were major efforts toward development of systems for monitoring students in

their growth and development. The work of Ben Wood, Director of the Educational Records Bureau at Columbia University, is a major example. Wood was influenced by one of the findings of the Pennsylvania Study, sponsored by the Carnegie Corporation in the years 1928-32, which had shown that a large portion of the intellectually able were not going on to college. He recommended that high schools keep cumulative records of their students to use in advising them about educational and vocational choices. In 1928 the American Council on Education adopted a standard record form for this purpose, with 80% of the space given to information from test scores. Wood's concern with the continuous development of the individual was shared by the Progressive Education Association, which he had served as consultant on another project.

During the same period, the states also began to develop a monitoring capability for student performance. The major concerns in the 1930s, with high rates of youth unemployment, were vocational and educational guidance. Testing was carried out for this purpose and to extend backup services in the identification of the gifted and the handicapped. The two major state-centered research projects, relying in part on large-scale testing, were the Pennsylvania Study and the New York Regents Inquiry. These studies were not directed at assessing the competence of high school students, but at determining the adequacy of the guidance structures in their schools.

Despite these efforts, most formal testing in American schools still serves institutional monitoring functions better than functions of individual guidance or placement. For example, more than 50 years have passed since Wood's work, yet very few of the large city high schools can even now pride themselves on well-maintained and easily accessible

individual student records. There remain, however, good records of aggregate performance by classes, grades, and schools on achievement (and sometimes aptitude) tests. These can and do serve accountability functions--witness the regular publication of aggregate test scores in local newspapers--but they are of little use to individual students or teachers. The spectacular growth in the use of standardized achievement tests during the last 30 years has been partly due to demands for evaluation of various mandated and specially-funded programs in the schools, and partly to demands by parents and other citizens' groups--especially minorities--for information on the performance of various schools within a district. However, teachers and administrators report limited use of these tests in decisions that affect individual children, except when placement in special education classes is involved.[19]

Over the years, test instruments have been selected and modified to serve these institutional monitoring functions and not to motivate the performance of the individual student. As a result, most of our tests are not well-suited to serving as incentives or guidelines for higher educational standards. Most important in this respect, the tests are not designed to be "taught to." In fact, they are likely to lose their validity as instruments of comparison if they are used in this way. But tests that cannot be taught to cannot properly shape the curriculum. Further, since they cannot be "studied for," they do not provide a useful form of incentive or feedback to students who take them.

Even our college entrance tests, which do have a clear impact on educational opportunities, cannot succeed as instruments for improving the performance of individual students. Although the tests can register

declines in standards and thus motivate a general public concern, they cannot shape an instructional response. This is because both the SAT and ACT tests are deliberately not tied to the high school curriculum. Although there are private tutoring courses that claim to prepare students for these tests, such tutoring stands apart from the curriculum. This separation of test from curriculum is not an accident. The College Board, created in 1900 to rationalize the college entrance examination process, at first administered only essay-type course-based examinations. These achievement exams were based on a preparatory school curriculum that was available only in the more traditional and elite secondary schools. In 1926 the College Board introduced the Scholastic Aptitude Test, in a multiple-choice format, free of dependence on any particular course program. It appeared to be a fairer instrument for selection, since it was assumed not to penalize the student who attended a weak high school or followed an undemanding course of study.[20] Although this assumption is now coming under question, college entrance tests detached from the curriculum and thus unable to directly influence high school study remain in place.

B. Examining the Student: An Alternative Approach to Standards Maintenance

It is not inevitable that testing and teaching remain separated. In fact, there is reason to believe that educational systems that are marked by periodic examination for which schools deliberately prepare their students have built-in mechanisms for standards maintenance and improvement that are largely lacking in American schools with their heavy testing programs. The French school system, for example, uses virtually no standardized tests but does make extensive use of entrance and exit examinations to control who enters particular programs and who

receives diplomas, certificates, and degrees of various kinds. The examinations are based on the content of what has been studied in the preceding years of school. Preparation for the exams is a major part of the curriculum.[21]

Examinations can play at least as great a role in standards maintenance in educational systems without centrally established curricula. They do this in two ways. One is by exerting influence on the content and style of teaching in the classes that precede the taking of the exam. The second is by denying access or certification to those who cannot pass, so that the "value" of certificates and diplomas is maintained. To understand how examinations can work in this way, we can consider the role of public examination in England--a country with a strong commitment to local control of education and a quite varied set of educational institutions.

Examinations in England. Although they play a role similar to French examinations in standards maintenance, English public examinations are a much more complex affair--largely as the result of the English commitment to decentralized educational control. First, there are two different sets of examinations aimed at different segments of the school population. The GCE (General Certificate of Education) examinations are, by tradition, designed for the top 20% of the school population; while the CSE (Certificate of Secondary Education) exams, introduced in the 1960s, are aimed at the next 40%. In practice, a slightly higher portion of students enjoy a moderate amount of success with both types of examinations. However, a substantial number--at least 15% of those who leave school between the ages of 15 and 17--take no examination in any subject and leave without formal certificate or diploma.[22]

Let us consider the GCE system of examinations first. The first thing to note is that, although the exams are national in the sense that a given exam may be taken by students all over the country, school districts and even individual schools are free to choose among several different examinations in each subject. There are eight different GCE examination boards serving England. They set O-level ("ordinary," taken at age 16) and A-level ("advanced," taken at age 18) exams in over 20 different school subjects. Schools may use the exams of different boards for different subjects. Sometimes they even offer students the choice of preparing for two different exams in the same subject.

The exams control the content of the curriculum in a very direct way for one or two years prior to the year in which they are taken. The exam also influences the performance standard in the classes that precede these preparatory classes. Although there are complaints to be heard in many quarters about the ways in which this teaching-to-the-exam restricts content and creativity, there is no doubt that the existence of the exam as a goal also sets a floor--a very high one--for the kind of instruction that will be offered. Students may take anywhere from one to five O-level exams and from one to three A-levels. Students are differentiated within the school in terms of how many exams they prepare for and which ones. However, within a given exam course the syllabus and the level of expectation is the same for all students.

Given the degree of control over instruction exercised by examinations, we may well ask what kind of care goes into preparation and grading of the exams, and what guarantee there is that a small coterie of examiners will not gain control over the schools' curriculum.

The answer is complex and worthy of a study in its own right. We can only sketch the process here, with particular attention to a complex checking and balancing system that the English refer to as "moderation."

Exams are set and graded in three or four stages. Each stage of "moderation" calls for the systematic checking of one individual's or group's judgment against the judgment of peers. First, the course syllabus that will guide the work of teachers preparing students for the exam is outlined. This is done by a senior professor or teacher in the discipline, but before the syllabus is accepted and sent to participating schools there is a complex process of checking and conferring with advisory panels of other experts in the field. The next step, a year later, is the preparation of questions for the exam. Again the lead professor or teacher drafts the questions, but there is extensive conferring with peers before the questions--and a sketch of appropriate answers to essay questions--are agreed upon. When the exam papers from the students are in hand, there is an even more elaborate system of moderation to control the grading. The senior examiner may grade a few sample papers, and this grading will be used to establish rather detailed guidelines for the graders. Graders (they are teachers of the subject, but no teacher grades his or her own students' exams) then grade all of the papers. The lead professor then regrades a sample of each grader's papers. If systematic deviations in judgment are found, a correction formula is applied to bring all graders onto roughly the same scale. In occasional cases an entire set of papers from a grader may be regraded. Only after these cross-checks are grades assigned to students. There is a complicated--but apparently infrequently invoked--appeal procedure available for students or parents who believe there have been inequities.

The process just sketched insures participation of a broad spectrum of educators in the setting and grading of exams. But this is not the end of the moderation process. The various examination boards are concerned about keeping their individual standards in line with those of other boards around the country, so from time to time there are various inter-board moderation exercises.[23] Although these take various forms, they almost always involve people from different boards regrading each other's exams and comparing course syllabi. Although these exercises do not affect the grades of the individual students (they come well after the grades are in), they serve to keep the boards well aware of each other's standards. Although there seems to be a recognition in England that boards differ in their emphases and a belief in some places that certain boards' exams are harder to do well on than others, there is no very great discrepancy perceived. In other words, there is little sense that there are gross differences in the standards from one board to another even though the specific content of an exam--especially in courses in the humanities--may vary considerably.

The CSE exams are of more recent origin and are an attempt to offer a diploma or certificate to a new clientele, those who earlier would have left school at 14 or 15 but who now remain until age 16. Rather than dramatically changing the character of the GCEs, which tend to be university-controlled, a new examination system was established after the school-leaving age was raised in 1964 in order to accommodate the wider band of the population in school at 16. In comprehensive schools, both GCE and CSE exams are offered. The separate courses that prepare students for the exams create an informal but very constraining tracking system within these schools.

The CSE exam structure shares many features--especially the various stages of moderation--with the GCE. However, there are some important differences. The most obvious is an administrative one. Schools anywhere in the country may select the exams of any GCE examining board, but CSE boards are regional. Schools within the region must use the exams set by their region's CSE board. Although the reasons for this are more administrative than educational, one apparent effect is to create fairly uniform standards for gauging exam performance within regional districts.

The CSE boards are generally more willing to tailor exams to various experimental courses and curricula than the GCE. CSE also examines various vocational and technical subjects that are not examined at all in the university-oriented GCE system. Many educators feel that CSE allows experimentation and adaptation to the student population while still retaining the standard-setting benefits of public examinations. Needless to say, traditionalists tend to believe that CSE's experimentation leads to lowered standards. Indeed, in setting equivalences between the two exams, a 5 (out of 5) on a CSE is assumed to be equivalent to a 3 (out of 5) on a GCE. Despite these differences, the two examination systems co-exist peaceably, largely because they serve different and fairly well-defined populations.

Examinations in America: Advanced placement and minimum competency tests. Although most testing in this country is divorced from teaching, there are two types of tests in use that function in ways that are similar to the English public examinations. Ironically, they are designed for the two extremes of our school population--a small subset of the academically talented on the one hand, and a group who are having

difficulty meeting the most minimal basic literacy standards on the other. These are the Advanced Placement Tests of the College Board and various minimum competency tests imposed by states and school districts as a high school graduation requirement.

Although nearly half of American high school students take some form of college entrance tests, many fewer ever take an externally set and graded examination that they can study for. Even the College Board's achievement tests, which are designed to directly test knowledge in school subjects, are not tied to a specific syllabus published in advance. Students therefore cannot prepare for them in the very direct way that English students prepare for exams, and the tests cannot directly influence the curriculum.

In the United States, only the Advanced Placement (AP) exams of the College Board function in a manner similar to the English and French examinations.[24] The AP program was introduced by the College Board in the post-Sputnik era, although planning began in 1952. It was designed to promote college-level study in the high schools and to provide a basis for granting college credit for such study. Advanced Placement specifies both a syllabus and an examination tailored to it; the program currently covers 24 introductory college courses in 12 fields. The program's first year of operation was 1955-56, with a little over 1200 students in 104 schools. It has a current growth rate of 10% per year. Over 135,000 students took AP exams this past year, about one-tenth the number of those who took the SAT or ACT tests.

The only other external course examinations serving a large number of academically-oriented students in the United States are the New York State Regents examinations. These were instituted in 1865, with the express intent of maintaining a common high standard in the quite varied high schools of the state. Regents exams in a number of high school subjects were offered, and the high school courses prepared students for these exams. Regents exams, offered in 22 courses, begin in the first year of high school, but most students take the bulk of their exams in their junior year. About 40% of the students receiving high school diplomas in New York state in 1982--close to 90,000 graduates--completed some number of Regents courses. Unlike the AP courses, these do not give college credit. They do, however, entitle students to a Regents diploma or a special certification on their regular school diploma.[25]

Minimum competency tests, aimed at the weakest of our students, also tend to function as examinations that control the content of teaching. Since 1969, two-thirds of our states have mandated competency testing programs for their public schools. A considerable amount of litigation over equal educational opportunity, school financing, and accountability lies behind the establishment of these programs. Of 34 states with some form of minimum competency testing, two-thirds test at both the primary and secondary levels, and half have attempted to set some common standard achievement for the award of a high school diploma.[26] By court decision (Debra P. vs. Turlington), states and local districts are forbidden to use competency tests as a basis for diplomas unless the material tested has been taught in the schools for a long enough period that students have had a reasonable opportunity to master it. In other words, the tests must be "taught to" and therefore, like examinations, they influence content and motivate study.

Some school districts have instituted very ambitious testing programs that go well beyond the mandated state programs and are explicitly designed to raise the standard of academic performance. The Pittsburgh Public Schools, for example, have instituted a city-wide basic skills testing program in which minimum objectives are established for every grade level; every child is tested on these objectives each year. Other school districts--New York City, for example--use tests tied to specified instructional objectives as a basis for deciding which children will be promoted into certain grades. In both of these kinds of testing programs, the intent is to improve academic standards by setting clear instructional objectives that can be taught and then examined.

Nothing like these minimum competency examination programs exists in other countries. They are a uniquely American response to the question of standards maintenance and improvement. There are several reasons that such programs arose here and not elsewhere. First is the fact that we are virtually the only country in the world to grant high school diplomas on the basis of little more than course attendance. Elsewhere the diploma or certificate is almost always dependent on an examination of some kind. As the system works in both France and England, for example, only a minority of students--some 15-20%--leave school without any certificates of competence. Up to now, both countries have been willing to tolerate this "fallout" from their schools, perhaps because they began only recently to expect children to stay in school beyond age 14 or 15. In both countries there is now some movement to provide less demanding examinations so that the academically weaker or less interested students can have some credential when they finish. It is important to note that both countries are considering

extending exit examinations rather than eliminating them, as a way of serving an expanded school population.

It is appropriate, then, to think of minimum competency testing programs as an effort to educationally enfranchise the least able segment of the school population--that is, to give them a credential based on a known standard of performance. In this respect we are somewhat ahead of our European counterparts. But by focusing only on minimal performance, the competency testing movement severely limits its potential for upgrading educational standards. In fact, the existence of minimum competency examinations--at least in elementary and middle schools--may have the effect of restricting the range of what teachers attend to in instruction and thus of lowering the standard of education for all but the weakest students.

In Pittsburgh, for example, the first year of implementation of a district-level mathematics competency testing program has resulted in a rise in average scores on the California Achievement Test in mathematics. However, there have already been observations that teachers are omitting from their teaching those topics in the mathematics curriculum that will not be tested directly in a given year.[27] The people in the Pittsburgh schools who are responsible for the testing program are aware of this problem and are trying to take steps to counteract it. They may succeed--at least in the case of elementary and middle-school mathematics, where the range of potential topics is well bounded. Nevertheless, this example points to a fundamental limitation of competency examination programs unless such programs are designed so that they test for more than the minimum set of objectives.

III. Conclusions and Recommendations

Our discussion in the preceding section has already suggested several broad arenas in which action to improve educational standards might profitably be undertaken. In this concluding section of the report we return to each of these domains in order to make more explicit the conclusion that we believe can be drawn from our analysis. We also offer several recommendations for educational policy based on these conclusions.

A. Upgrading the Curriculum

Our analysis suggests that the present curriculum in American schools contributes to weak educational standards in two ways: (a) a lack of stringent course requirements and (b) in many cases, weak content and poor instruction within courses.

Course requirements. The evidence described in our section on the curriculum makes it clear that there has been a general trend over several decades toward less enrollment in what are perceived as the "harder" courses. Despite a vast rise in the number of college-bound students, enrollment in the traditional college preparatory subjects is down in high school.[28] This reflects the fact that the colleges--the traditional source of pressure on the high schools for high academic standards--have in the face of more varied applicant populations, demands for "relevance", and the need to compete for students, reduced their requirements. For noncollege-bound students--except for a minority in well structured vocational programs--there are even fewer requirements of any substance.

One of the effects of recent demands for a renewed emphasis on the "basics" and for minimum competency testing has been to reduce the time spent in schools on subjects other than elementary math and reading, and to limit instruction and evaluation to the most elementary levels of thought and performance. There appears to be somewhat less science taught in elementary schools today because of the almost exclusive focus on reading and math. Composition is barely taught--perhaps in part because of our heavy reliance on "objective" rather than essay tests. Finally, there are multiple examples of courses in middle and high schools that focus almost exclusively on the low-level skills and knowledge that will be tested on minimum competency tests.

One important way to improve educational standards is to offer and require more serious study at high levels of demand, levels that go beyond the basics. This must begin well in advance of the high school years--although the process of setting requirements for high school will help to exert pressure on the middle and elementary schools as well for a more demanding curriculum. What are the mechanisms available for such requirement-setting?

Despite their constitutional authority to impose curricular requirements, the function of maintaining standards by setting a floor under curricular demands has not been performed well by most of our states. Two-thirds of the states require a U.S. history course as a graduation requirement, but only one in eight demands a foreign language, and less than a quarter call for a social studies course.[29] The most commonly required courses after U.S. history and civics are health and physical education. Less than half the states require courses of study in reading, writing, or mathematics. The states with very small

numbers of required courses, which are by far the majority, tend to be those requiring instruction in largely nonacademic areas. That there is room for positive action by states with respect to curriculum is demonstrated by the four states with the largest number of mandated courses--Iowa, Georgia, New York, and Wisconsin. These are also the states that require the broadest range of academic subjects. The states, then, are in a position to take a leading role in the improvement of curriculum standards. To do so, however, they will have to play a more active role than they have up to now.

Colleges, too, can play an important role in setting requirements--one that will affect a substantial segment of the high school population--since about one-third of high school graduates (a little over one-quarter of the 18-24 age group) attend college for at least one year.[30] In public colleges and universities, the linking of course requirements for high school graduation to those for entrance into the state higher education system can exert especially strong positive pressure on educational standards. The process of setting course requirements will require careful rethinking about which students are to study which subjects. We shall return to this issue below when we discuss possible new responses to the question of tracking.

Improving the content and form of instruction. Simply requiring more study of certain subjects will not do the whole job of improving instructional standards. The content and methods of instruction must also be of a high standard. How is course content in our schools to be improved, and how are teachers to be helped to achieve the highest standards of instruction?

The question of how to improve curriculum content provokes considerable anxiety in the United States because of this nation's commitment to local control over curriculum. On the one hand, local control means avoiding any curriculum prescription at a central or national level. As we have seen, even the states are reluctant to prescribe curriculum, although they clearly have the constitutional right to do so. And there has been an unwillingness to invest federal or even state resources in the development of curricula that might be perceived as centrally prescribed. Still, it is recognized that serious curriculum reworking is likely to require resources beyond those that any individual school district can muster--the money, time, and access to the most informed sources on how best to teach any given subject. In the face of this dilemma, educators have for some years now found themselves immobilized with respect to the question of curriculum reform.

We believe that an honest appraisal of the current situation with respect to curriculum points to a solution to the dilemma. The first step is to recognize that, despite the absence of centrally imposed curriculum requirements, there are powerful forces that press American schools toward considerable similarity in what is taught from district to district. Perhaps the most powerful of these forces is the textbook. Textbooks strongly influence what is actually taught in the classroom. As much as 95% of classroom instruction is textbook based, according to recent studies.[31] This means that textbooks exercise a very significant degree of control over the nation's curricula and thus over its educational standards.

In each school subject a few textbooks dominate the field. At the elementary school level, five or six large textbook series in reading and math usually control about 80% of the market. In some states, textbook adoption is limited by law to an even smaller number of approved text series. Adoption by the large states that have statewide adoption is critical to the economic viability of a text series that is expensive to bring into print. The editors therefore try to anticipate what kinds of materials will "sell" in those states, and this colors what becomes available to districts elsewhere as well. Moreover, publishers report that this influence occurs in a marketplace where demands already tend to be quite similar from state to state, region to region, and district to district. Given all of these pressures, it is not surprising that variations in content and format between the different textbooks--though real--are not so great as to create anything like a truly different curriculum or widely varying standards among the users of different series.

All of this means that schools tend to function with much more similar curricula than our rhetoric of local control would suggest. We cannot escape from the pressures toward a common curriculum by avoiding public and national engagement in curriculum improvement. In fact, it is only through an aggressive program of curriculum study and reform, coupled with new demands from textbook adoption committees and professional education associations, that we can hope to provide both real choice and improved instruction in our schools.

Let us consider first the ways in which informed "pressure" and selective buying by local adoption committees might begin to influence what is available in school textbooks. Textbook publishers are

extremely sensitive to the real and perceived demands of their marketplace. This sensitivity is responsible for some of what we now consider to be "low standard" textbooks. For example, lower readability levels were introduced into textbooks during the years in which schools were absorbing a broader segment of the population and attempting to keep them all moving through the grades at the prescribed ages. Sensitive to the need for texts that could be used by children of varied abilities, textbook publishers began to take careful account of readability levels, to publish these levels, and--in keeping with perceived educational demand--to simplify language and introduce more pictures.[32] Publishers' sensitivity to public and educational demand, however, can work in the other direction as well. For example, in just the few years since the call by the National Council of Teachers of Mathematics for greater attention to problem solving in the mathematics curriculum, there is already more space devoted in math textbooks to problem solving. By the same mechanisms that earlier produced lowered readability levels, the present national concern for improved standards in the schools can lead to upgrading textbooks. The textbooks can thus become vehicles for improvement of educational standards. However, this will happen only if textbook adoption committees and professional associations of educators begin to demand changes in these directions. Like other private sector institutions, publishers will prove to be very responsive to changes in their markets.

It would be a mistake, however, to rely entirely on these marketplace pressures for the improvement of instructional materials. A concerted effort to improve educational standards will also require a more direct approach. What we need to develop is a program that combines the benefits of intensive curriculum study and redesign with

continued openness to local experiment. Serious curriculum reform requires efforts and resources that are beyond the powers of individual school districts. If we are serious about reform, we must have curriculum development projects that are concerned with more than an individual district, while avoiding any implication that the programs produced are prescribed for everyone. The way to do this is through multiple curriculum development efforts in each subject area, so that there are real choices to be made by school districts. Some states or consortia of states already may be in a position to undertake major curriculum efforts--with the possibility that districts in other states will subsequently choose to use their programs. In a few cases, large school districts might now be able to sponsor curriculum projects, perhaps in association with appropriate professional organizations.

Federal curriculum projects, too, can be undertaken without risk of their becoming overly prescriptive, so long as more than a single effort in a given subject is funded. We have, in the history of federal funding of educational innovations, some models--such as "planned variation" in Head Start and Follow Through--that have resulted in a menu of genuine program choices for school districts. Strategies of this kind can probably be adapted to curriculum development, with different projects based in different parts of the country and drawing upon different experts in their definition of content and recommended teaching methods.

Finally, publishers--once they can anticipate a reasonable market for the more demanding programs that these projects will produce--can be expected to be willing participants in the necessary periodic redesign of their textbooks and related materials. If publishers become partners

early in the process of planning, perhaps some of the resources that publishers devote in any case to the regular reworking of their textbook series will be redirected to the new efforts. If different publishers join with different projects, there will be a natural competition among the resulting programs--and perhaps more variety in what is then actually available for school districts to choose among than is now the case.

B. New Forms of Assessment

American school children are the most tested in the world, and the least examined. We distinguish here between examinations as formal inquiries into the extent to which students have mastered a particular curriculum, and tests as assessments only loosely linked to what is taught in any particular school. American children take one or more tests practically every year they are in school. Most of these tests are intended to be achievement tests--that is, to assess how well students have learned the content of their school curriculum. However, the fact that the tests are standardized and not keyed to any individual school's curriculum means that students are never expected to prepare themselves for a major external examination. As a result, our present testing programs are poor instruments for improvement or maintenance of standards.

There is good reason to promote external examinations in American schools as a way of raising and maintaining standards at the top and middle ends of our academic distribution. Examinations coupled with publicized syllabi should guide the preparation of students in various subjects. As in England, and in the examination programs that currently

operate in this country, both school and university teachers would be expected to participate in the process of setting syllabi, questions, and grading standards.

Our nation would probably be comfortable with such an examination system if there were many programs that schools or students could select among. Examinations might be prepared and administered at the state level (as in New York)--a procedure that would appropriately exercise the states' responsibilities for establishing and monitoring education. Another possibility is the expansion of the currently available system of achievement and advanced placement examinations of the College Board. Finally, universities either individually or cooperatively could extend their involvement in the design and grading of advanced-level high school examinations. This would have the effect of linking high school standards to those of the colleges, and of insuring the participation in standard-setting of individuals who are well trained in the disciplines taught in the high schools.

Another important opportunity for using assessments to improve standards of educational performance lies in the competency programs now in place or being planned in many states and individual school districts. Such programs qualify as <u>examination</u> programs, in our definition, when they publicly set objectives around which school instruction is organized. To function well as instruments of standards improvements, however, competency-testing programs must stop focusing on <u>minimum</u> objectives for given grade levels or diplomas. There is growing evidence that the presence of minimum competency examinations restricts what is taught to the most basic material. While this focusing of attention may improve performance for the minority of students now

functioning below minimal levels, it can actually lower learning opportunities for all others.

The basic principles of competency testing can be maintained in a system that examines a relatively broad range of objectives, from the "minimum" upwards, at each age or grade level tested. Certain objectives can be specified as a minimum for passing the examination. At the same time, those who demonstrate competence on the more challenging objectives can be awarded higher grades on some appropriate scale. As in England, even our diplomas can be differentiated--although this is not a necessary use of graduated competency test scores. Most current competency tests risk either lowering standards in mixed-ability classes that focus too narrowly on the competencies to be tested, or relegating the least-prepared students to separate classes in which all opportunity to move beyond the minimum is effectively foreclosed. Neither is an acceptable situation. Expansion of competency tests to include more challenging objectives and graded results can avoid these difficulties and turn competency-testing programs into effective instruments of standards maintenance.

C. A New Decision on Tracking: Focus on High Standards in Middle School

Tracking in the schools is intimately related to both the perception and the reality of standards. Highly tracked educational systems can permit the most able students to be offered a demanding curriculum with high standards of performance, although these advantages may well be earned at the cost of lower standards of expectation and performance for those not in the top tracks. As we have shown, American public schools suffer from most of the disadvantages of tracking and few

of its advantages. We currently maintain a generally undemanding common curriculum in the middle school in the hopes of reaping the social benefits of a school system that does not divide children according to academic performance. Then we track within the comprehensive high school, but on the basis of a middle school preparation that is often too weak to permit really high-level study.

In this analysis, an important first step in raising educational standards is to raise the level of instruction and performance in the middle school. There are two ways in which this can be done. The easy way is to begin tracking earlier and thus capitalize on a long period of intensive study for the more able students. But this is unlikely to improve performance for the others. The harder but preferable path is a nontracked curriculum that sets strong intellectual standards in a core program for all students, even those who up to now effectively have been denied the stimulus of challenging programs.

Our proposal is in the spirit of the recommendations of the Committee of Ten: strong academic programs for all students--both as a way of keeping higher education options open to all and as a way of developing truly educated citizens. A proposal similar in intent has been put forward recently by Mortimer Adler and the Paideia group. The Paideia Proposal[33] holds that all students can become successfully engaged in a curriculum that includes three elements: acquisition of coherently organized knowledge by means of direct instruction, development of intellectual skills by means of coaching and supervised practice, and enlarged understanding of ideas and values by discussion of important books and works of art. The Proposal does not specify what "successful" engagement means, nor does it offer details of curriculum beyond the

three areas just named. But it does express in strong, direct form a vision of a common education that has never been tried.

Nobody knows whether a solidly intellectual program for all students could work--whether students would drop out, whether they would perform at a successful level. Nobody knows because nobody has ever seriously tried. It is reasonable to hope that at least a few school districts will give this approach to improving educational standards a serious try. In such an experiment, the thing to watch for will be improved performance over a period of five to ten years. Over such a period of time both schools and families will be able to adapt to a radically changed set of expectations, and students will be prepared accordingly. It is true that many students now enter secondary school unable or unwilling to pursue a demanding academic curriculum. However, once it is made clear that people can cultivate the necessary abilities, changes can be expected both in the kind of teaching offered during earlier years of the school program and in how it is received by students.

The notion of a high-level, academically oriented common curriculum is a radical idea because it takes absolutely seriously the goal of a fully educated citizenry--not just a long-schooled one. There is no country in the world more suited to giving it a serious try than ours. And the present time may be more appropriate than ever. This is because of the fundamental change now taking place in the labor market. The current growth in demand for technical skills and the decline in traditional manufacturing jobs create a situation in which the kinds of abilities schools are best capable of developing are more in demand than ever. As young people and their families come to recognize these

structural changes in the nature of work, it is reasonable to expect a revaluing of schooling to occur even among segments of the population that have traditionally regarded school skills with some skepticism. If this revaluation were to be coupled with an educational program that expected--and knew how to promote--serious intellectual performance from all segments of the school population, we might discover that an academically-oriented common program can succeed well beyond what has been thought possible.

Footnotes

1. The timing of this growth in America is reviewed in Martin Trow, "The Second Transformation of American Secondary Education," The International Journal of Comparative Sociology, II(1961), pp. 144-166. Arnold Heidenheimer, "The Politics of Public Education, Health and Welfare in the U.S.A. and Western Europe: How Growth and Reform Potentials Have Differed," British Journal of Political Science, III(1973), esp. pp. 319-322, compares this development with patterns in Europe. For an effort to examine the effects of legislation on school attendance, see William Landes and Lewis Solmon, "Compulsory Schooling Legislation: An Economic Analysis of Law and Social Changes in the Nineteenth Century," Journal of Economic History, XXXII(1972), pp. 54-91.

2. See Harvey Kantor, "Vocationalism in American Education: The Economic and Political Context, 1880-1930," in Work, Youth, and Schooling: Historical Perspectives on Vocationalism in American Education, eds., Harvey Kantor and David B. Tyack (Stanford: Stanford University Press, 1982), pp. 15-44. On the pressures for standardization in the society at large, see Robert H. Wiebe, The Search for Order, 1877-1920 (New York: Hill and Wang, 1967).

3. For the transformation of the work force by white-collar work, see the contributions by Eli Ginzburg and others in the special issue of Scientific American, November, 1982.

4. For background on the Committee of Ten, see Theodore R. Sizer, Secondary Schools at the Turn of the Century (New Haven: Yale University Press, 1964). All quotations from the reports of the committee are taken from the anthology of F. M. Raubinger et al., eds., The Development of Secondary Education (New York: The Macmillan Company, 1969), pp. 25-75. All page citations are to this text.

5. Cardinal Principles of Secondary Education, Bureau of Education, Bulletin No. 35 (Washington, DC: Department of the Interior, 1918). Excerpted with commentary in F. M. Raubinger et al., eds., The Development of Secondary Education, pp. 97-130.

6. Larry Cuban, "Enduring Resiliency: Enacting and Implementing Federal Vocational Education Legislation," in Work, Youth, and Schooling, eds., Harvey Kantor and David B. Tyack, pp. 45-78, reviews the legislative history.

7. James B. Conant, The American High School Today: A First Report to Interested Citizens (New York, Toronto and London: McGraw-Hill Book Co., Inc., 1959).

8. For more precise data, see National Research Council, The State of School Science: A Review of the Teaching of Mathematics, Science and Social Studies in American Schools, and Recommendations for Improvements (Washington, DC: National Academy of Sciences, June, 1979).

9. I. R. Weiss, Report of the 1977 National Survey of Science, Mathematics, and Social Studies Education (Washington, DC: GPO, 1978), p. 22.

10. College Entrance Examination Board, On Further Examination: Report of the Advisory Panel on the Scholastic Aptitude Test Score Decline (New York: College Entrance Examination Board, 1977).

11. Samuel Messick, The Effectiveness of Coaching for the SAT: Review and Reanalysis of Research from the Fifties to the FTC (Princeton, NJ: Educational Testing Service, 1980).

12. For current knowledge about this relationship, see C. W. Fisher and D. C. Berliner, eds., Perspectives on Instructional Time. New York: Longman Press, in press.

13. On this topic, see Joseph F. Kett, "The Adolescence of Vocational Education," in Work, Youth, and Schooling, eds., Harvey Kantor and David B. Tyack, pp. 79-109.

14. See the analysis of Lester Thurow, "Vocational Education As a Strategy for Eliminating Poverty," in The Planning Papers for the Vocational Education Study (Washington, DC: National Institute of Education, April 1979), pp. 323-336. For the employability of vocational education graduates see, among others, John T. Grasso and John R. Shea, Vocational Education and Training: Impact on Youth (Berkeley, Calif.: The Carnegie Council on Policy Studies in Higher Education, 1979).

15. See, for example, Robert S. Lynd and Helen M. Lynd, Middletown: A Study in Contemporary American Culture (New York: Harcourt Brace, 1929); and Middletown in Transition (New York, Harcourt Brace, 1937).

16. For the uses of tests for accountability, see the contributions by Lauren B. Resnick et al., in Phi Delta Kappan, 62(1981): 623-634. For the evolution of testing practice, see Daniel P. Resnick, "evolution of testing practice," in Ability Testing: Uses, Consequences, and Controversies, Part II, eds., Alexandra K. Wigdor and Wendell R. Garner (Washington, DC: National Academy Press, 1982), pp. 173-194.

17. Daniel P. Resnick and Carolyn Schumacher, "The Pittsburgh Research and Measurement Bureau, 1918-1939" (paper presented at the AERA conference, Boston, April 8, 1980); and Edward A. Krug, The Shaping of the American High School, 1880-1920 (Madison: University of Wisconsin Press, 1964), pp. 94-95.

18. On the army testing program, see Daniel M. Kevles, "Testing the Army's Intelligence: Psychologists and the Military in World War I" Journal of American History, LV (December, 1968): 565-81; and two recent theses: Thomas M. Camfield, "Psychologists at War: The History of American Psychology and the First World War" (Ph.D. dissertation, University of Texas at Austin, 1969); and Donald S. Napoli, "The Architects of Adjustment: The Practice and Professionalization of American Psychology" (Ph.D. dissertation, University of California at

Davis, 1975). See also Franz Samelson, "World War I Intelligence Testing and the Development of Psychology" Journal of the History of the Behavioral Sciences, XIII, (July 1977): 274-82. The network that brought army and school psychologists together is described in Paul Chapman, "Lewis Terman and the Intelligence Testing Movement, 1890-1930" (Ph.D. dissertation, Stanford University, 1979), esp. pp. 119-141.

19. For the reports of teachers and administrators, see Leslie Salmon-Cox, Lee Sproull and David Zubrow, in Phi Delta Kappan, 62(1981): 628-634. The issue of special education is discussed in Kirby A. Heller, Wayne H. Holtzman, and Samuel Messick, eds., Placing Children in Special Education: A Strategy for Equity (Washington, DC: National Academy Press, 1982).

20. Michael S. Schudson, "Organizing the 'Meritocracy': A History of the College Entrance Examination Board," Harvard Educational Review, XLII(1972): 34-69; Claude M. Fuess, The College Board: Its First Fifty Years (New York: College Entrance Examination Board,1950). For the equity issue in the inter-war period, see Henry Chauncey Interview, March 31, 1977, II, pp. 1-6, Educational Testing Service Archives, Princeton, New Jersey. We wish to thank Gary D. Saretzky for his assistance in accessing materials in the ETS archives.

21. For the changing structure of French education over the past century, and the elements of continuity, see Antoine Prost, Histoire Generale de l'Enseignement et de l'Education en France, Tome IV. Paris: Nouvelle Librairie de France, 1981; and Joseph N. Moody, French Education Since Napoleon (Syracuse: Syracuse University Press, 1978). The selection process, as it is influenced currently by teacher decision is reviewed in Daniel P. Resnick, "Educational Reform: Recent Developments in Secondary Schooling," Contemporary French Civilization, Vol. VI, Nos. 1-2 (Fall-Winter, 1981-82), pp. 133-151.

22. Statistical Bulletin, 15/80, Department of Education and Science, November 1980, summarizes data on British school leavers for 1979. A fuller analysis of this data is to be found in Department of Education and Science, Statistics of Education, Volume 2, School Leavers CSE and GCE (England) (London: HMSO, 1981). This statistical series is published annually.

23. See G.S. Bardell, G.M. Forrest, and D.J. Shoesmith, Comparability in GCE: A Review of the Boards' Studies, 1964-1977 (Manchester: The Joint Matriculation Board, 1978); T. Christie and G.M. Forrest, Standards at GCE A-Level: 1963 and 1973 (London: Macmillan Education Ltd., 1980). We would like to thank the Schools Council for arranging visits to a number of GCE and CSE Boards, in England and Wales.

24. Excellent documentation on the operation of this program is available in publications about particular subject areas and in more integrative studies. For an overview, see Beginning and Administering an Advanced Placement Program in a Secondary School (New York: College Entrance Examination Board, 1982) and the annual A Guide to the AP program, available through the AP Program Office, Educational Testing Service, Princeton, New Jersey. We would like to thank AP Program Director Carl Haag and his staff for their assistance.

25. Kenneth Ormiston, Bureau Chief, New York State Board of Regents, Albany, has provided information on current operations. For a historical appreciation of the Regents program, see Sherman N. Tinkelman, "Regents Examinations in New York State After 100 Years." This was an address given at the Invitational Conference on Testing Problems, Educational Testing Service, Princeton, NJ, October 30, 1965.

26. See Daniel P. Resnick, "Minimum Competency Testing Historically Considered," Review of Research in Education, VIII(1980): 3-29; and W.P. Gorth and M.R. Perkins, A Study of Minimum Competency Testing Programs: Final Program Development Resource Document (Amherst, Mass.: National Evaluation Systems, 1979).

27. Leslie Salmon-Cox, "MAPmath: End of Year One Report," Learning Research and Development Center, University of Pittsburgh, July 1982. Funding for this research was provided by the Carnegie Corporation of New York.

28. This was noted in the report on SAT score decline by the College Entrance Examination Board. See the detailed analysis of the percentage of students completing three or more years of academic courses in English and mathematics in New York City high schools, 1973 and 1978, in New York Times, March 23, 1978, p. 48. For a review of enrollments in different subject areas of high school study at key dates, 1890-1949, see John F. Latimer, What's Happened to Our High Schools? (Washington, DC: Public Affairs Press, 1958), esp. Table 14.

29. Earl J. Ogletree, "The Status of State-Legislated Curricula in the U.S.," Phi Delta Kappan, LXI (1979), pp. 133-135.

30. Data are available from the DHEW-NCES National Longitudinal Study of the High School Class of 1972 (National Center for Education Statistics, 1977), showing that 27.5% of American high school graduates, representing 20.5% of the 18-24 age group, was enrolled in four-year schools as of October, 1973. Self-reports from household surveys conducted by the Bureau of the Census (1980) indicate that a little over 25% of the 18-24 age group was enrolled in some college. We have not yet had an opportunity to analyze the results of the recently undertaken longitudinal study of the high school class of 1980, which will provide more current estimates.

31. See EPIE Institute, "Report on a national study of the nature and the quality of instructional materials most used by teachers and learners," EPIE Report, Number 76, 1977. For a broad appreciation of the role of the textbook in school learning, see the various contributions in John Y. Cole and Thomas G. Sticht, eds., The Textbook in American Society: A Volume Based on a Conference at the Library of Congress on May 2-3, 1979 (Washington, DC: Library of Congress, 1981).

32. See Jeanne S. Chall, An Analysis of Textbooks in Relation to Declining S.A.T. Scores (New York: College Entrance Examination Board, 1977).

33. Mortimer J. Adler, The Paideia Proposal: An Educational Manifesto (New York: Macmillan Publishing Co., 1982).