

**THE MOTIVATION PROBLEM
IN AMERICAN HIGH SCHOOLS**

John Bishop
Cornell University
Working Paper # 88-13

Center for Advanced Human Resource Studies
New York State School of Industrial and Labor Relations
Cornell University
Ithaca, New York 14851-0925
607-255-2742

Former Associate Director: Research
The National Center for Research in Vocational Education

Paper to be presented at the Tenth Annual Research Conference of The Association for Public Policy Analysis and Management, October 28, 1988 at the Four Seasons Olympic Hotel in Seattle, Washington. The research that has culminated in this paper was sponsored by the Center for Advanced Human Resource Studies, the National Center for Research in Vocational Education and the Commission on Testing and Public Policy. I would like to thank Peter Mueser for helpful comments on earlier version of the paper. The opinions and conclusions expressed herein are solely those of the author and should not be construed as representing the opinions or policies of any agency of the United States Government. This paper has not undergone formal review or approval of the faculty of the ILR school. It is intended to make results of Center research available to others interested in human resource management in preliminary form to encourage discussion and suggestions.

ABSTRACT

American high school students devote much less time and energy to their studies than the students of other nations. The cause of the lack of motivation is the lack of rewards for studying hard and for taking rigorous courses. This occurs for four reasons. First, the U.S. economy fails to give academic achievement its due reward in the labor market and rewards instead credentials that signify time spent, rather than competencies acquired. In most other countries credentials are more closely related to competencies obtained, so school achievement is a more important determinant of prestige and income as an adult than they are in the U.S.

The second cause is the zero sum nature of academic competition and resulting peer pressure against studying hard. The most important signals of one's achievement--rank in class and GPA--are indicators of one's ranking relative to close friends not measures of performance on an absolute scale in the way a scout merit badge is. Since studying hard makes things worse for friends, the peer group pressures everyone to take it easy.

The third reason is the almost total absence of school sponsored recognition of the academic achievements of students who are not at the very top of their class. Most students learn very early that they have no realistic chance of getting one of these prizes and their reaction is often to denigrate both the reward and the achievement it honors and to honor instead other forms of achievement --eg. athletics, being cool, being popular--which offer them better chances of success.

The fourth reason is the admissions criteria of the nation's better colleges and universities. In the United States these decisions are based almost entirely on (a) scores on the Scholastic Aptitude Test, a test which does not assess achievement in the science, history and math courses taken in high school and (b) high school class rank and GPA, a criterion that generates zero sum competition among classmates. In Japan and most of Europe, admission to the better universities and into the most selective programs of study are based largely on the student's performance on a battery of achievement exams taken at the end of secondary school (eg. "A" levels in the UK and the Baccalaureate in France).

The paper concludes with a discussion of a variety of reforms that will strengthen incentives to study and generate parental pressure on local school administrators for higher standards and better teaching.

8/6/88

THE MOTIVATION PROBLEM IN AMERICAN HIGH SCHOOLS

"All too often docile, compliant, and without initiative." This is how TheodoreSizer (1984) characterized American high school students at the end of his massive two year study of high schools. John Goodlad also concluded: "The extraordinary degree of student passivity stands out" (1984). When teachers are asked what they feel are the most important problems in education, more than 40% respond, "lack of interest by students".

Studies of time use and time on task in high school show that students actively engage in a learning activity for only about half the time they are scheduled to be in school. Absence rates of 15 percent or more are common. Even when students are in class, the teacher and/or students are on task only part of the time. A study of high schools in Chicago found that public schools with high-achieving students averaged about 75 percent of class time for actual instruction; for schools with low achieving students, the average was 51 percent of class time (Frederick 1977). Overall, 46.5 percent of the potential learning time was lost due to absence, lateness, and inattention (Frederick 1979). Other studies have found that for reading and math instruction the average engagement rate is about 75 percent (Fischer et al., 1978; Klein, Tyle, and Wright 1979; Goodlad 1983). For vocational classes it is about 56 percent (Halasz and Behm 1983). When absences, nonclass time, and nonengaged class time are combined, less than half of the scheduled time at school is used for learning.

In 1980, high school students spent an average of 3.5 hours per week on homework. When homework is added to engaged time at school, the total time devoted to study, instruction, and practice is only 18-22 hours per week -- between 15 and 20 percent of the student's waking hours during the school year. By way of comparison, the typical senior spent 10 hours per week in a part-time job and about 25 hours per week watching television. Thus, TV occupies as much of an American adolescents time as learning. Students in other nations spend much less time glued to the tube. Austrian students watch 68 percent less, Swiss students watch 60 percent less, and Canadian students watch 44 percent less. (OECD, Table 18.1, 1986)

The lack of student interest makes it difficult for teachers to be demanding. As TheodoreSizer has observed, "A lot of the honors students

aren't questers. They dodge the hard problems, the hard courses, to keep their averages up."(p. 53) Teachers find it difficult to escape being infected by the lassitude. The students can be cruel if they are not entertained or if they perceive the work load to be too heavy. Sizer's description of Ms. Shiffe's class, was strikingly similar to one of the classes I visited in my research:

Even while the names of living things poured out of Shiffe's lecture, no one was taking notes. She wanted the students to know these names. They did not want to know them and were not going to learn them. Apparently no outside threat--flunking, for example--affected the students. Shiffe did her thing, the students chattered on, even in the presence of a visitor....Their common front of uninterest probably made examinations moot. Shiffe could not flunk them all, and if their performance was uniformly shoddy, she would have to pass them all. Her desperation was as obvious as the students cruelty toward her."(p157-158)

How does a teacher avoid this treatment? Sizer's description of Mr. Brody's class provides one example.

He signaled to the students what the minima, the few questions for a test, were; all tenth and eleventh-graders could master these with absurdly little difficulty. The youngsters picked up the signal and kept their part of the bargain by being friendly and orderly. They did not push Brody, and he did not push them. The classroom was tranquil and bland. By my watch, over a third of the time was spent on matters other than history, and two-thirds of the classes ostensibly devoted to the subject were undemanding. Brody's room was quiet, and his students liked him. No wonder he had the esteem of the principal who valued orderliness and good rapport between students and staff. Brody and his class had agreement, all right, agreement that reduced the efforts of both students and teacher to an irreducible and pathetic minimum.(p. 156)

Some teachers are able to overcome the obstacles and induce students to undertake tough learning tasks. But for most mortals the lassitude of the students is too demoralizing. Everyone in the system recognizes that there is a problem, but each group fixes blame on someone else. The teachers blame the parents, the students or the administrators. The students and parents tend to blame the teachers. As one student put it:

As it stands now, there is an unending, ever increasing cyclic problem. Teacher and administrator disinterest, apathy, and their lack of dedication results in students becoming even more unmotivated and docile, which in turn allows teachers to be less interested and dedicated. If students don't care, why should teachers? If teachers don't care, why should the students (Krista 1987).

Yes, it is a classic chicken versus egg problem. We assign teachers the responsibility for setting high standards but we do not give them any effective means except the force of their own personality for inducing student acceptance of the academic goals of the classroom. Most students view the costs of studying hard as much greater than the benefits, so the peer group pressures the teacher to go easy. All too often teachers are forced to compromise their academic demands by their inability to induce the bulk of the class to accept them as reasonable and legitimate. In the current institutional environment, it is highly unlikely that it will be possible to attract enough gifted teachers to solve the problems described above.

Student apathy and student motivation are not the whole of the problem. Parental apathy and parental motivation should also concern us. A comparative study of education in Taiwan, Japan and the U.S. shows that even though American children were learning the least in school, American parents were the most satisfied with the performance of their local schools (Stevenson, Lee and Stigler 1986). Why do Japanese and Taiwanese parents hold their children and schools to a higher standard than American parents?

The U.S. lag in mathematics was revealed by the First International Mathematics Study in 1967. Test scores turned down in 1968. Why did it take until 1981 for a major educational reform movement to get underway? Thus the problem of apathy and motivation is as much a societal problem as it is a parental, a teacher or a student problem.

I. REASONS FOR THE APATHY

The fundamental cause of the apathy and motivation problem is the way we recognize and reinforce student effort and achievement. During the 1960's and 1970's we adopted practices and developed institutions which hid from ourselves our failure to teach, which protected adolescents from the consequences of failing to learn, and which prevented many of those who did learn from reaping the fruits of their labor. The problem is that while there are benefits to staying in school, most students do not benefit very much from working hard while in school. The lack of incentives for effort is a consequence of three phenomena:

- * The labor market fails to reward effort and achievement in high school.
- * The peer group actively discourages academic effort.
- * Admission to selective colleges is based on class rank, grades and aptitude test which do not assess the high school curriculum not on the student's achievement defined relative to an external standard.

1.1 The Absence of Major Economic Rewards for Effort in High School

The educational decisions of students are significantly influenced by the costs (in money, time and psychological effort) and benefits (praise, prestige, employment, wage rates, and job satisfaction) that result. Any number of empirical studies confirm this.¹ When asked why they work hard in school and/or why they care about grades, college-bound students typically respond, "to get into college" or "to get into a good college." For students who plan to look for a job immediately after high school, however, the situation is different. They typically spend less time on their studies than those who plan to attend college, in large part because most of them see very little connection between performance in high school and their future success in the labor market. Their teachers, of course, tell them that they are wrong, that they will be able to get a better job if they study hard. But when the students observe the success of prior graduates, they can see that it does not depend on how much they learned in high school. Statistical studies of the youth labor market confirm their skepticism about the economic benefits of studying hard:

- o For high school students, high school grades and performance on academic achievement/aptitude tests have essentially no impact on labor market success. They have -
 - no effect on the chances of finding work when one is seeking it during high school, and
 - no effect on the wage rate of the jobs obtained while in high school. (Hotchkiss, Bishop and Gardner 1982)
- o As one can see in table 2, for those who do not go to college full-time, high school grades and test scores had -
 - no effect on the wage rate of the jobs obtained immediately after high school in Kang and Bishop's (1984) analysis of High School and Beyond seniors and only a 1 to 4.7 percent increase in wages per standard deviation (SD) improvement in test scores and grade point average in Meyer's (1982) analysis of Class of 1972 data.
 - a moderate effect on wage rates and earnings after 4 or 5 years [Gardner (1982) found an effect of 4.8 percent per SD of achievement

Table 1

Effect of Academic Achievement
on the Wage Rates of High School Graduates

<u>Study and Data Set</u>	<u>Date of Graduation</u>	<u>Age</u>	<u>Achievement Measures</u>	<u>Percent Change in Wage Rate</u>	
				<u>Male</u>	<u>Female</u>
<u>Wage Rates</u>					
Kang & Bishop (1985) High School & Beyond	1980	19	Test-Math,Voc,Read GPA in Grade 12	-1.9 .6	-.5 2.2
Gardner (1983) NLS Youth	1976-1982	19-24	AFQT	4.8	4.8
Daymont & Rumberger NLS Youth (1982)	1976-1979	19-21	GPA in Grade 9	.3	2.7
Meyer (1982) (Weekly earnings) Class of 1972	1972	19	Class Rank Grade 12 Test Composite	0.0 1.2	2.5 2.2
<u>Earnings</u>					
Hause (1975) Project Talent (white)	1961	19 23	IQ,Test-Math IQ,Test-Math	-3.7 6.1	-- --

The table reports the percentage response of the wage rate or earnings to a one standard deviation improvement in a measure of academic achievement. For high school seniors a one standard deviation differential on an achievement test is about equal to 3.5 grade level equivalents or 110 points on the Verbal SAT. For GPA, one standard deviation is about .7 when C's = 2.0, B's = 3.0 and A's = 4.0.

and Meyer (1982) found an effect of 4.3 to 6.0 percent per SD of achievement],
 --a small effect on employment and earnings immediately after high school.

- ° In almost all entry-level jobs, wage rates reflect the level of the job not the worker's productivity. Thus, the employer, not the worker, benefits from a worker's greater productivity. Cognitive abilities and productivity make promotion more likely, but it takes time for the imperfect sorting process to assign a particularly able worker a job that fully uses that greater ability -- and pays accordingly.

The long delay before labor market rewards are received is important because most teenagers are "now" oriented, so benefits promised for 10 years in the future may have little influence on their decisions.

1.2 The Benefits to Society of Academic Achievement

Although the economic benefits of higher achievement to the employee are quite modest and do not appear until long after graduation, the benefits to the employer (and therefore, to national production) are immediately apparent in higher productivity. Over the last 80 years, industrial psychologists have conducted hundreds of studies, involving many hundreds of thousands of workers, on the relationship between productivity in particular jobs and various predictors of that productivity. They have found that scores on tests measuring competence in reading, mathematics, science and problem solving are strongly related to productivity on the job²(Ghiselli 1973).

Figure 1 compares the percentage effect of mathematical and verbal achievement (specifically a difference of three grade level equivalents in test scores or .7 GPA points (on a 4 point scale) on the productivity of a clerical worker, on wages of male clerical workers (from Taubman and Wales 1975), and on the wages of young women who have not gone to college (from Kang and Bishop 1984 and Meyer 1982). Productivity clearly increases much more than wage rates.^{3,4} Apparently it is a youth's employer, not the youth, who benefits the most when a non-college-bound student works hard in school and improves his or her academic achievements. The youth is more likely to find a job, but not one with an appreciably higher wage. The next sub-section examines reasons for the discrepancy.

Impact of Academic Achievement

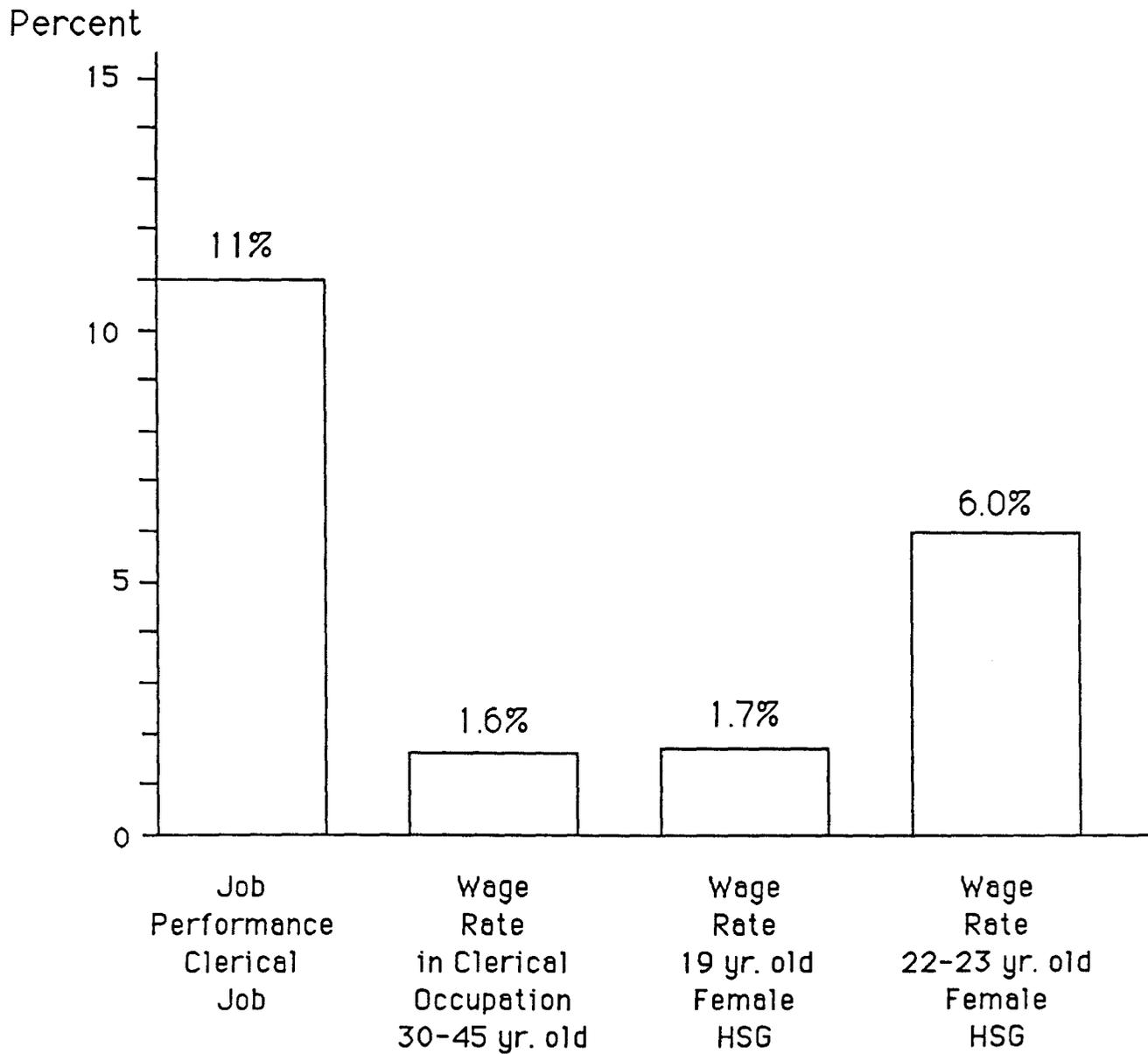


Figure 1

Reasons for the Discrepancy between Wage Rates
and Productivity on the Job

Employers are presumably competing for better workers. Why doesn't this competition result in much higher wages for those who achieve more in high school or for those who do well on a general mental ability test? The cause appears to be the lack of objective information available to employers on applicant accomplishments, skills, and productivity.

Tests are available for measuring competency in reading, writing, mathematics, science and problem solving, but court decisions, e.g. Griggs vs. Duke Power Company (1971), and pressure from Equal Employment Opportunity Commissions resulted in a drastic reduction in their use after 1971. A 1987 survey of a stratified random sample of small and medium sized employers who were members of the National Federation of Independent Business found that aptitude test scores had been obtained in only 3.15 percent of the hiring decisions studied (Bishop and Griffin 1988).

Other potential sources of information on effort and achievement in high school are transcripts and referrals from teachers who know the applicant. Both these means are under-used. In the NFIB survey, transcripts had been obtained prior to the selection decision for only 13.7 percent of the hiring events in which someone with 12 or fewer years of schooling was hired. If a student or graduate has given written permission for a transcript to be sent to an employer, the Buckley amendment obligates the school to respond. Many high schools are not, however, responding to such requests. The experience of Nationwide Insurance, one of Columbus, Ohio's most respected employers, is probably representative of what happens in most communities. The company obtains permission to get high school records from all young people who interview for a job. It sent over 1,200 such signed requests to high schools in 1982 and received only 93 responses. Employers reported that colleges were much more responsive to transcript requests than high schools. High schools have apparently designed their systems for responding to requests for transcripts around the needs of college bound students not around the needs of the students who seek a job immediately after graduating.

There is an additional barrier to the use of high school transcripts in selecting new employees--when high schools do respond, it takes a great deal of time. For Nationwide Insurance the response almost invariably took

more than 2 weeks. Given this time lag, if employers required transcripts prior to making hiring selections, a job offer could not be made until a month or so after an application had been received. Most jobs are filled much more rapidly than that. The 1982 NCRVE employer survey of employers found that 83.5 percent of all jobs were filled in less than a month, and 65 percent were filled in less than 2 weeks.

The only information about school experiences requested by most employers is years of schooling, diplomas and certificates obtained, and area of specialization. Probably because of unreliable reporting and the threat of EEOC litigation, only 16 percent of the NFIB employers asked the applicants with 12 or fewer years of schooling to report their grade point average. Despite their limited use in selecting employees, employers apparently believe that grade point averages are good predictors of future productivity. A policy capturing experiment with a nationwide sample of 750 employers found that employer ratings of completed job applications were more affected by high school grade point average than any other single worker characteristic (Hollenbeck and Smith, 1984).

Hiring on the basis of recommendations by high school teachers is also uncommon. In the NFIB survey, when someone with 12 or fewer years of schooling was hired, the new hire had been referred or recommended by vocational teachers only 5.5 percent of the time and referred by someone else in the high school only 3.1 percent of the time.

Consequently, hiring selections and starting wage rates often do not reflect the competencies and abilities students have developed in school. Instead, hiring decisions are based on observable characteristics (such as years of schooling and field of study) that serve as signals for the competencies the employer cannot observe directly. As a result, the worker's starting wage primarily reflects the average productivity of all workers with the same set of educational credentials rather than that individual's productivity or academic achievement. A study of how individual wage rates varied with job performance found that when people hired for the same or very similar jobs are compared, workers who are 20 percent more productive than the average received wage offers that were only 1.6 percent higher than average (Bishop, 1987a). After a year at the firm, the more productive workers were more likely to be promoted, but the impact of reported productivity on a

worker's relative wage was still quite low. A 20 percent productivity differential generated a 4 percent wage differential at nonunion firms with about 20 employees and no wage differential at unionized establishments with more than 100 employees and at nonunion establishments with more than 400 employees.

Employers have a number of good reasons for not varying the wage rates of their employees in proportion to their perceived job performance. All feasible measures of individual productivity are unreliable and unstable. Workers are reluctant to accept jobs in which the judgement of one supervisor can result in a large wage decline in the second year on the job (Hashimoto and Yu 1980; Stiglitz 1974). Most productivity differentials are specific to the firm, and this reduces the risk that not paying a particularly productive worker a comparably higher salary will result in him going elsewhere (Bishop, 1987a). Pay that is highly contingent on performance can also weaken cooperation and generate incentives to sabotage others (Lazear 1986). Finally, in unionized settings, the union's opposition to merit pay will often be decisive.

This evidence implies that the social benefits of developing one's verbal, mathematical and scientific capabilities are considerably greater than the private rewards. Despite their higher productivity, young workers who have achieved in high school and who have done well on academic achievement tests do not receive higher wage rates immediately after high school. The student who works hard must wait many years to start really benefiting and even then the magnitude of the wage and earnings effect--a 1 to 2 percent increase in earnings per grade level equivalent on achievement tests--is considerably smaller than the actual change in productivity that results.

1.3 The Zero-Sum Nature of Academic Competition in High School

The second root cause of the lack of real motivation to learn is peer pressure against studying hard. Students report that "in most of the regular classes... If you raise your hand more than twice in a class, you are called a 'teachers pet.'" Its OK to be smart, you cannot help that. It is definitely not OK to study hard to get a good grade. This is illustrated by the following story related by one of my students:

Erroneously I was lumped into the brains genus by others at school just because of the classes I was in. This really irked me; not only was I not an athlete but I was also thought of as one of those "brain geeks". Being a brain really did have a stigma attached to it. Sometimes during a free period I would sit and listen to all the brains talk about how much they hated school work and how they never studied and I had to bite my lip to keep from laughing out loud. I knew they were lying, and they knew they were lying too. I think that a lot of brains hung around together only because their fear of social isolation was greater than their petty rivalries. I think that my two friends who were brains liked me because I was almost on their level but I was not competitive (Tim 1986).

The primary reason for these rivalries and the peer pressure against studying is that the academic side of school forces students into a zero-sum competition with their close friends. Their achievement is not being measured against an absolute or an external standard. In contrast to scout merit badges where recognition is given for achieving a fixed standard of competence, the only measures of achievement that receive attention in school are measures of one's performance relative to one's close friends such as grades and rank in class. When students try hard and excel in school, they are making things worse for friends. When we set up a zero sum competition among close friends, we should not be surprised when they decide not to compete. All work groups have ways of sanctioning "rate busters." High school students call them "brain geeks", "grade grubbers" and "brown nosers".

Adolescents are not lazy. In their jobs after school and at football practice they work very hard. In these environments they are not competing against each other. They are working together as part of a team. Their individual efforts are visible to their peers and appreciated by them. On the sports field, there is no greater sin than giving up, even when the score is hopelessly one sided. In too many high schools, when it comes to academics, there is no greater sin than trying hard.

The second reason for peer norms against studying is that most students perceive the chance of receiving recognition for an academic achievement to be so slim they have given up trying. At most high school awards ceremonies the recognition and awards go to only a few--those at the very top of the class. By 9th grade most students are already so far behind the leaders, that they know they have no realistic chance of being perceived as academically successful. Their reaction is often to denigrate the students who take

learning seriously and to honor other forms of achievement--athletics, dating, holding your liquor and being "cool"--which offer them better chances of success.

The lack of external standards for judging academic achievement and the resulting zero sum nature of academic competition in the school also influences parents, the school board, and local school administrators. Parents can see that setting higher academic standards or hiring better teachers will not improve their child's grade point average or rank in class. The Scholastic Aptitude Test is intended to be curriculum free. Raising standards at the high school will have only minor effects on how my child does on the SAT, so why worry about standards. In any case, doing well on the SAT matters only for those who aspire to attend a college like Brown or Cornell. Most students are planning to attend a public college, many of which admit all high school graduates from the state with the requisite courses. Scholarships are awarded on the basis of financial need not academic merit.

The parents of children not planning to go to college have an even weaker incentive to demand high standards at the local high school. They believe that what counts in the labor market is getting the diploma not learning algebra. They can see that learning more will be of only modest benefit to their child's future, and that higher standards might put at risk what is really important--the diploma.

Only at higher levels of government such as the state or nation do the real costs of mediocre schools become apparent. The whole community loses because the work force is less efficient, and it becomes difficult to attract new industry. Competitiveness deteriorates and the nation's standard of living declines. This is precisely the reason why employers, governors and state legislatures have been the energizing force of school reform. State governments, however, are far removed from the classroom, and the instruments available to them for imposing reform are limited. If students, parents and school board officials perceive the rewards for learning to be minimal, state efforts to improve the quality of education will not succeed.

1.5 Incentives to Learn in Other Nations

The tendency to under-reward effort and learning in school appears to be a peculiarly American phenomenon. In Japan and many European countries,

the educational system administers achievement test batteries (eg. the 'O' Levels in the UK, the Baccalaureate in France) which are closely tied to the curriculum. Performance on these exams are the primary determinant of which university and which field of study a student is admitted to. The credentials which are awarded to secondary school completers signal not only that the individual has passed a particular set of exams but also the level of the pass. Top companies in Japan and Europe often hire lifetime employees directly out of secondary school, and performance on these exams, together with teacher recommendations and school grades, have a significant impact on who gets to work at the more prestigious firms (Leestma, et. al., 1987; Reubens 1969). Germany does not have common national or provincial exams so grades in school are a crucial determinant of which employer a German youth apprentices with and which university and specialty college bound students get to enter.

In Japan the best jobs are available only to those who are recommended by their high school. The most prestigious firms have long term arrangements with particular high schools to which they delegate the responsibility of selecting the new hire(s) for the firm. It is understood by everyone that when more than one student is interested in a particular job, the student with the highest grades and best exam results is to be referred. The number of graduates that a high school is able to place in this way depends on its reputation and the company's past experience with graduates from the school. Schools with poorly prepared students find it difficult to place them in good jobs. A school which does not live up to this implicit understanding loses the opportunity to make referrals in the future. The following incident demonstrates what happens when meritocratic principles are set aside by the school.

A couple of years ago, after the school decided to recommend a student for a job, another student told us that he wished to apply for the same firm, and he (and his parents) said he had strong personal connections with an executive in the firm. Although we were not comfortable about doing this, we allowed the second student to apply (and we) withdrew the other (better qualified) student. Later, the firm complained that the student lacked the requisite ability, and they have stopped offering a job to us since then. We visited and explained what happened, but, after all, we lost the relation with the firm. (Furikawa 1986, article written by a teacher in charge of job placement in a high school; quoted in Rosebaum/Kariya, 1987, page 10).

Japanese parents know that their son or daughter's future economic and social rank in society critically depends on which high school is attended and on how much is learned in school. Entry into the better high schools depends primarily on the child's performance in junior high school, not on where the parents can afford to live as in the US. Since the reputation of the high school is so important, the competitive pressure reaches down into junior high school. Forty-five percent of junior high school students attend Juku, private schools which provide tutoring appearing on the exam that determines which high school one is admitted to. Due to the importance of the national exams in the allocation of students to high school, colleges and jobs, learning achievement tends to be measured relative to everyone else in the state or nation and not just relative to one's classmates in the school. These are the reasons why Japanese parents demand so much of their children and of their schools. This is why Japanese 5th graders spend 32.6 hours a week involved in academic activities while American youngsters devote only 19.6 hours to their studies (Stevenson, Lee and Stigler 1986).

Japanese adolescents work extremely hard in high school, but once they have entered college, they stop working. For most students, a country club atmosphere prevails. The reason for the change in behavior is that employers apparently care only about which university the youth attends, not about the individual's academic achievement at the university. Studying very hard is not a national character trait, it is a response to the way Japanese society rewards academic achievement.

American students, in contrast, take it easy in high school but generally work quite hard in college. This change is in large part caused by the fact that when higher level jobs requiring a bachelors or associates degree are being filled, employers pay much more attention to grades and teacher recommendations than when they hire high school graduates. The NFIB survey found that when college graduates were hired, 26 percent of the employers had reviewed the college transcript before making the selection, 7.8 percent had obtained a recommendation from a major professor and 6.3 percent had obtained a recommendation from a professor outside of the graduates major or from the colleges's placement office.

If learning were defined by an absolute standard and not by one's ranking in the school, and the rewards for learning were as attractive as they are

in Japan, everyone--students, teachers, parents and school boards--would behave very differently. Parents would demand that their school be the best and would be willing to tax themselves heavily to achieve that result. The status and salary of secondary school teachers would rise, the requirements for entry into the profession would increase, and standards of teacher performance would improve. If parents were not satisfied with their child's academic progress, they would send him or her to a tutor or an after school just as Japanese parents do. Adolescents would no longer be such reluctant learners.

II. HOW TO IMPROVE THE QUALITY OF EDUCATION

The rapid gains in academic achievement overseas and declining achievement here spell trouble for the American economy (Koretz 1987; Bishop 1987b). The problem is so serious and so longstanding that nothing short of radical reform will help. Most of the reforms now underway are desirable, but by themselves they are insufficient.

Proposed reforms of secondary education include stricter graduation requirements, more homework, increases in the amount and difficulty of course material, greater emphasis on the basics (English, math, science, social science, computer science), and improvements in the quality of teaching through higher salaries, career ladders, and competency tests for teachers. Although important, these reforms are limited in that they emphasize changes in the content and quality of what is offered by the school and require the student to work harder. They have given insufficient attention to how to motivate students to work harder. Learning is not a passive act; it requires the time and active involvement of the learner. In a classroom with 1 teacher and 18 students, there are 18 learning hours spent to every 1 hour of teaching time. Student time is, therefore, very important, and how intensely that time is used affects learning significantly. Clearly, then, attention needs to be given to how much time and energy students devote to learning.

The key to motivation is recognizing and rewarding learning. Individual learning goals should be established which stretch the student to the maximum extent possible. Achievement of these goals would be assessed by the school and recognized at an awards ceremony. The student would receive a competency profile describing these achievements that would aid in securing employment. If employers know who has learned what, they will provide the rewards.

The second way schools can generate stronger incentives for learning is to restructure school wide and classroom recognition of student achievement so that everyone has a chance to be recognized for their contribution: greater effort by everybody makes everybody better off, and there are significant rewards for learning and real consequences for failing to learn. As TheodoreSizer has advocated, "The better the performance, the greater [should be] the latitude given the student." (Sizer p. 67) Bloom's theory of mastery learning says that there are no differences in what people can learn, only differences in the rate at which people learn. Given enough time, almost everyone can achieve mastery. Students who fail to learn on the first try should commit extra time to the learning task. Extra classes could be scheduled after school and during the summer. Learning would be defined as gains in competence and gains in knowledge, not as an absolute standard of performance. The gifted and the handicapped would be stretched as would everyone else. The reward for effort and for learning would be free time. Schools would be open all day and all year. Enrichment programs designed to attract all students would be offered during the additional time. Everyone would be encouraged to participate but only the unsuccessful learners would be obligated to participate.

Some might respond to these proposals by stating a preference for intrinsic over extrinsic motivation of learning. This, however, is a false dichotomy. Nowhere else in our society do we expect people to devote thousands of hours to a difficult task while receiving only intrinsic rewards. Public recognition of achievement and the symbolic and material rewards received by achievers are important generators of intrinsic motivation. They are, in fact, one of the central ways a culture symbolically transmits and promotes its values.

It goes without saying that these reforms involve a radical restructuring of our schools. No fault adolescence and the zero sum nature of academic competition would pass from the scene. The incentives faced by everyone in the system would change and this would probably lead to a major increase in public investment in education. The proposed reforms are not simple to implement and they need not be implemented all at once. The discussion of the recommendations that follows is organized into six sections:

- 2.1 Improving Measures of Academic Achievement.
- 2.2 Getting the Peer Group to Encourage Learning.
- 2.3 Creating New Learning Opportunities in School.
- 2.4 Generating Additional Recognition and Reward for Learning.
- 2.5 Helping Students Obtain Good Jobs

2.1 Improving Measures of Academic Achievement

Certifying Competencies

Schools should provide graduates with certificates or diplomas that certify the students' knowledge and competencies, not just their attendance. Competency should be defined by an absolute standard in the way Scout merit badges are. Minimum competency tests for receiving a high school diploma are an example of an externally imposed standard of achievement. They are a step in the right direction especially when they are taken early in high school and remedial classes are offered after school and during the summer for those who fail on the first try. However, some students arrive in high school so far behind, and the consequences of not getting a diploma are so severe, we have not been willing to set the minimum competency standard very high. As a result, minimum competency tests have only modest incentive effects for the great majority of the students.

Competency Profiles

Another way to motivate students is to give them feedback on their accomplishments through the mechanism of a criterion referenced competency profile. Competency profiles are a check list of competencies needed in a specific occupation which the student either has or can develop through study and practice (see exhibit 1). The ratings of competence that appear on a competency profile are relative to an absolute standard, not relative to their classmates. By evaluating students against an absolute standard, the competency profile avoids a negative feedback of one student's effort into another student's grade. It encourages students to share their knowledge and to teach each other.

