WHAT'S WRONG WITH AMERICAN SECONDARY SCHOOLS: CAN STATE AND FEDERAL GOVERNMENTS FIX IT?

John H. Bishop
Cornell University
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National Center on the Educational Quality of the Work Force
and
Institute for Labor Market Policy
and
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

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> Ninety-three percent of 17 year olds do not have "the capacity to apply mathematical operations in a variety of problem settings." (National Assessment of Educational Progress, 1988b p. 42)
>
> Twenty-five percent of the Canadian 18 year olds studying chemistry know as much chemistry as the top 1 % of American high school graduates taking their second year of chemistry, most of whom are in Advanced Placement classes (International Association for the Evaluation of Educational Achievement, 1988).
>
> In October of 1985, 1986, 1987 and 1988, 28 percent of the previous June's noncollege-bound white high school graduates had no job. Fifty-five percent of the black graduates had no job (Bureau of Labor Statistics 1989).
>
> The high school graduates of 1980 knew about 1.25 grade level equivalents less math, science, history and English than the graduates of 1967. This decline in the academic achievement lowered the nation's productivity by $86 billion in 1987 and will lower it by more than $200 billion annually in the year 2010 (Bishop 1989).
>
> Between 1971 and 1988 real wages fell 17.3 percent for young male high school graduates and 10 percent for young female graduates. (Katz and Murphy 1990)

The poor performance of American students is sometimes blamed on the nation's "diversity". Many affluent parents apparently believe that their children are doing acceptably by international standards. This is not the case. In Stevenson, Lee and Stigler's (1986) study of 5th grade math achievement, the best of the 20 classrooms sampled in Minneapolis was outstripped by every single classroom studied in Sendai, Japan and by 19 of the 20 classrooms studied in Taipeh, Taiwan. The nation's top high school students rank far behind much less elite samples of students in other countries. In mathematics the gap between Japanese and Finnish high school seniors and their white American counterparts is about twice the size of the two to three grade level equivalent gap between blacks and whites in the US (NAEP 1988b; IAEEA 1987). The learning deficit is pervasive.

I. LOW EFFORT: THE PROXIMATE CAUSE OF THE LEARNING DEFICIT

This poor record of achievement is caused by the limited amount of time, money and, above all, psychic energy devoted to academic learning in American high schools. Students, parents and the public are all responsible.

Student Effort

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, the critical resource, and how intensely that time is used affects learning significantly.

Studies of time allocation using the reliable time diary method have found that the average number of hours per week in school is 25.2 hours for primary school pupils, 28.7 hours for junior high students and 26.2 hours for senior high students. The comparable numbers for Japan are 38.2 hours for primary school, 46.6 hours for junior high school and 41.5 hours for senior high school (Juster and Stafford 1990). In addition, school years are longer in both Japan and Europe.

Studies show that American students actively engage in a learning activity for only about half the time they are scheduled to be in school. A study of 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). American students average nearly 20 absences a year; Japanese students only 3 a year (Berlin and Sum 1988). Overall, Frederick, Walberg and Rasher (1979) estimated 46.5 percent of the potential learning time is lost due to absence, lateness, and inattention.

In the High School and Beyond Survey students reported spending an average of 3.5 hours per week on homework (National Opinion Research Corporation 1982). **Time diaries yield similar estimates: 3.2 hours for junior high school and 3.8 hours for senior high school. Time diaries for Japanese students reveal that they spend 16.2 hours per week studying in junior high school and 19 hours a week studying in senior high school.** With the sole exception of Sweden, students in other countries report spending a good deal more time on homework than Americans (Robitaille and Garden 1989). When homework is added to engaged time at school, the total time devoted to study, instruction, and practice in the US is only 18-20 hours per week -- between 15 and 20 % of the student's waking hours during

Table 1

Time Use By Students

	T.V.		Reading Time
	Students	All Adults	Students
U.S.	19.6	15.9	1.4
Austria	6.3	10.6	4.9
Canada	10.9	13.3	1.5
Finland	9.0	9.0	6.0
Netherlands	10.6	13.4	4.3
Norway	5.9	7.2	4.3
Switzerland	7.7	9.0	4.8

Source: Organization of Economic Cooperation and development Living Conditions in OECD Countries Tables 17.2, 18.1, 18.3 & 18.4.

the school year. By way of comparison, the typical senior spent nearly 10 hours per week in a part-time job (NORC 1983) and 19.6 hours per week watching television. Thus, TV occupies as much time as learning. In table 1 we can see that secondary school students in other industialized nations watch much less television: 55 percent less in Finland, 70 percent less in Norway and 44 percent less in Canada (Organization of Economic Cooperation and Development, Table 18.1, 1986). In other countries high school students watch less TV than adults; in the United States they watch more. Reading takes up 6 hours of a Finnish student's non school time per week, 4.8 hours of Swiss and Austrian students time but only 1.4 hours of an American students time.

Science and mathematics deficits are particularly severe because most students do not take rigorous college preparatory courses in these subjects. The high school graduating class of 1982 took an average of only .43 credits of Algebra II, .31 credits of more advanced mathematics courses, .40 credits of chemistry and .19 credits of physics (Meyer 1988 Table A.2).

Even more important than the time devoted to learning is the intensity of the student's involvement in the process. At the completion of his study of American high schools, Theodore Sizer (1984) characterized students as, **"All too often docile, compliant, and without initiative.**(p. 54)" John Goodlad (1983) described: **"a general picture of**

considerable passivity among students...(p. 113)". The high school teachers surveyed by Goodlad ranked "lack of student interest" as the most important problem in education.

The student's lack of interest makes it difficult for teachers to be demanding. Sizer's description of Ms. Shiffe's biology class, illustrates what sometimes happens:

> 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."(1984 p. 157-158)

Some teachers are able to overcome the obstacles and induce their students to undertake tough learning tasks. But for most, the student's lassitude is demoralizing. Teachers are assigned responsibility for setting high standards but we do not give them any of the tools that might be effective for inducing student observance of the academic goals of the classroom. They finally must rely on the force of their own personalities. All too often teachers compromise academic demands because the bulk of the class sees no need to accept them as reasonable and legitimate.

Nevertheless, American students do not appear to realize how poor their performance is. **Even though American 13 year olds were one-fourth as likely as Korean students to "understand measurement and geometry concepts and [to be able to] solve more complex problems," Americans were three times more likely to agree with the statement, "I am good at mathematics"** (Lapointe, Mead and Phillips 1989).

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 desireable, these reforms are limited in that they emphasize changes in the content and quality of what is offered by schools and require the student to work harder. These reforms have ignored the problem of **motivating** students to take rigorous courses and to study harder. New York State, for example, tried to increase the rigor of high school curricula by upgrading the requirements for the Regents diploma, but the result has been a substantial drop

in the numbers of students getting the Regents diploma and an increase in the number of students receiving local diplomas.

Parental Effort

The second major reason for the low levels of achievement by American students is parental apathy. High school teachers rank "lack of parental interest" as the second most important problem in education (Goodlad 1983). An NSF funded survey of 2222 parents of 10th graders found that 25 percent thought their child should take only 1 or 2 science classes in high school (LSAY, Q. BH165). When 2829 high school sophmores were asked whether "My parents...think that math (science) is a very important subject," 40 percent said no with respect to mathematics and 57 percent said no with respect to science (LSAY, Q. AA19Q-AA19R). Only 30 percent of 10th graders reported their parents "want me to learn about computers" (LSAY, Q AA19D).

Despite the poor performance of Minneapolis 5th graders in mathematics, their mothers were much more pleased with the performance of their local schools than the Taiwanese and Japanese mothers. When asked "How good a job would you say ___'s school is doing this year educating___", 91 percent of American mothers responded "excellent" or "good" while only 42 percent of Taiwanese and 39 percent of Japanese parents were this positive (Stevenson, Lee and Stigler 1986). Table 2 presents data from this study

Table 2
Learning Is A Low Priority Of Parents

	Minneapolis	Sendai Japan	Taipeh Taiwan
Mothers Attended College	58%	22%	13%
5th Grader Has Study Desk	63%	98%	95%
Parents Purchased Workbook For Additional Homework			
Mathematics	28%	58%	56%
Science	1%	29%	51%
5th Grader Assigned Chores	95%	76%	28%
Parents Believing Their School is Doing an "Excellent or Good Job"	91%	39%	42%

Stevenson, Lee & Stigler "Mathematics Achievement of Chinese, Japanese and American Children," Science, February 1986.

Despite the small size of Japanese and Taiwanese homes, 95-98 percent of the fifth graders in these two countries had a desk of their own specifically for studying, while only 63 percent of the Minneapolis children had a desk. Mathematics workbooks had been purchased for their children by 56-58 percent of Taiwanese and Japanese parents but by only 28 percent of American parents. Science workbooks had been purchased by 51 percent of Taiwanese parents, 29 percent of Japanese parents, and by only 1 percent of American parents (Stevenson, Lee and Stigler 1986). This is not because they love their children any less, they have different priorities such as teaching responsibility and work habits by requiring that they do chores around the house. Clearly, American parents hold their children and their schools to lower academic standards than Japanese and Taiwanese parents.

If American parents were truly dissatisfied with the academic standards of their local public schools, they would send their children to private schools offering an enriched and rigorous curriculum as many parents do in Australia, and tutoring after school would be as common as it is in Japan. Japanese families allocate 10 percent of the family's after-tax income to educational expenses; American families only 2 percent. Most parents who send their children to private day schools appear to be attracted by their stricter discipline and religious education, not by more rigorous academics and better qualified teachers. At the great majority of private day schools, students do not learn at an appreciably faster rate than public school students (Cain and Goldberger 1983).

Public Effort: Educational Expenditure--a Deceptive Indicator

The ratio of per pupil expenditure in kindergarden through 12th grade to per capita GNP is lower in the United States than in 10 of 11 other advanced Western nations (Mishel and Rasell 1990). This statistic suggests that elementary education receives lower priority in the US than other nations. People who disagree with this implication point to another statistic, per pupil expenditure deflated by a cost of living index on which the United States ranks 2nd among the same group of 12 nations (US Department of Education 1990). This 2nd form of comparison is not very useful, however, because the costs of recruiting competent teachers are much higher in the US than abroad. Labor compensation accounts for 90 percent of education costs and, clearly, the wage that must be paid to recruit qualified teachers is substantially higher in countries with higher standards of living. A wage index for other college graduates in the society would probably be a reasonable proxy for this cost but such data is not

generally available. Deflation by GNP per worker or per capita GNP is the next best thing and comes substantially closer to the ideal than deflation by the cost of living. The result, however, is by no means a perfect index.

Even with the correct deflator, expenditure per pupil remains a deceptive indicator of a nation's investment in education because different countries budget school costs differently and assign public schools different functions. Mishel and Rasell's study included the costs of preschool education in their expenditure figure. Preschool education is funded through public education budgets in many European countries but not in the United States. This inflates European expenditure per pupil figures relative to those in the US. On the other hand, costs of transportation are generally not included in school budgets in Japan and Europe where students, even 1st graders, use the public transportation system to go to school. In many European countries after-school sports are sponsored and organized by local government, not the school. This removes the capital costs of extensive school-based sports facilities and the salaries of coaches and maintenance personnel from the school budget.

Vocational education is more expensive than traditional academic courses. The fact that the United States, Sweden, and France have their schools provide occupational training to large numbers of 16-18 year olds raises costs per student relative to the costs in Germany, Switzerland and Austria where employers are responsible for most of these costs. In 1980, German employers invested an average of $6000 per year in the training of each apprentice they took on as part of the dual system of vocational training (Noll et al. 1984). American schools perform functions such as after school sports, after school day care, hot lunches, and driver education that other countries often assign to other institutions. When data are carefully adjusted for all of these factors and deflated by a cost of education index reflecting compensation levels in alternative college level occupations, American spending per pupil is likely to be lower than in many European nations.

The primary reason for low real expenditure on education in the United States is the low levels of teacher compensation. When college graduate earnings are compared, education majors come out at the very bottom. In 1967 males with an undergraduate degree in engineering earned 67 percent more and those with a bachelors degree in business administration earned 36 percent more than males with education degrees.[1] Despite recent increases in teacher salaries the gap between teachers and other college graduates has grown even larger. Data on relative salaries is presented in the first columnn of Table 3. In 1984,

TABLE 3

Relative Salaries by College Major

	US Adults 1984	US Prev. Yr. Grads. 1985	Australia Prev. Yr. Grads.	
			1979	1989
Education	100	100	100	100
Humanities	106	101	86	92
Physical Science	205	127	97	102
Engineering	228	175	102	110
Economics	224	---	91	100
Business (BA)	216	136	---	---
(MBA)	317	---	---	---

Source: Census, Current Population Report, CPR, P70, No. 13; Digest of Educ. Statistics 1987; Graduate Careers Council of Australia, "Graduate Starting Salaries 1989."

physical science majors earned 105 percent more, engineers earned 128 percent more, economics majors 124 percent more and business majors 116 percent more than education majors. Social science majors earned 35 percent more and liberal arts, humanities and English majors earned 6-8 percent more than education majors. An MBA was worth 88 percent more, a Masters in Engineering 70 percent more and a law degree 114 percent more than a Masters or PhD in Education.[2] It is not an immutable law of nature that teachers should be paid substantially less than other occupations. Australian university graduates with education degrees start at the same salary as graduates in economics/business, 8 percent ahead of those who majored in humanities and only 2 percent below those who majored in physical science. Graduating engineers are paid only 10 percent more than education majors in Australia; they are paid 75 percent more in the US (Guthrie 1990). No wonder it is so difficult to attract the best and brightest into the teaching profession. The SAT test scores of entering freshman expressing an interest in majoring in education are lower than for any other major. No wonder it is particularly difficult to recruit science and mathematics teachers.

Comparisons with other industrialized societies tell the same story. Since many countries fund pensions and medical insurance through mandated social security taxes, it is essential to include both voluntary and compulsory contributions for these purposes in the calculation of teacher compensation. Estimates of total compensation per teacher deflated for cost of living differences between countries are presented in the first column of Table 4. In 1982-84, total compensation was 24 percent higher in Canada and Sweden, 6-7 percent higher in Germany and Holland, 20 percent higher in Belgium and 28 percent higher in France than in the United States.[3] Despite lower overall standards of living, these six countries paid their teachers more than we did. Compensation was 37 percent lower in the United Kingdom, 40 percent lower in Italy and 26 percent lower in Japan. Relative to output per hour worked, however, Japan paid its teachers 25 percent more than we did. The relative compensation of teachers was thus lower in only two countries, Britain and Italy.

The question that tends to be raised by statistics such as these is "Why do American voters choose to pay teachers so little?" Why do voters not demand higher standards of academic achievement at local high schools? Why do school boards allocate scarce education dollars to interscholastic athletics and the band rather than better mathematics teachers and science laboratories? It is to questions such as these that we now turn.

Table 4

Relative Teacher Compensation

	Teacher Compensation* 1982-84	GDP Per Hour Worked** 1977-81	Ratio Teacher Index/ GDP/hr
U.S.	100	100	1.0
Belgium	120	94	1.28
Canada	124	88	1.41
France	128	95	1.35
Germany	107	95	1.13
Italy	60	68	.88
Japan	74	59	1.25
Netherlands	106	97	1.09
Sweden	124	79	1.57
United Kingdom	63	78	.81

* Total compensation including compulsory health & pension contributions deflated by cost of living. (Index with US = 100) Source UNESCO.

** Total domestic output divided by total hours worked deflated by cost of living. (Index with US = 100) Source Angus Maddison.

Voter Apathy Regarding Academic Achievement

One of the unique characteristics of the American education system is that all the really important decisions--budget allocations, hiring selections, salary levels, homework assignments, teaching strategies, grading standards, course offerings, pupil assignments to courses and programs, disciplinary policies, etc.--are made by classroom teachers and school administrators who are responding to local political pressures. Federal and state officials are far removed from the classroom, and the instruments available to them for inducing improvements in quality and standards are limited. They do not have effective control of the standards and expectations that prevail in the classroom. They do not control the allocation of school funds between academics and athletics.

State aid can be increased; but econometric studies suggest that increases in state aid reduce local property tax collections by a significant amount (Carroll 1982; Ehrenberg and Chaykowski 1988). Only about 50 cents of every dollar of non-categorical state aid to local school districts appears to be spent on education. For categorical programs like Title I, the increase in local education spending is larger, but some leakage appears to be inevitable (Tsang and Levin 1983; Monk 1990).

School boards are the primary mechanism by which the voters exercise authority over local schools. In most parts of the country only bond issues need go to the voters for approval. The board determines the budget and sets the property tax rates necessary to fund that budget. Parents are typically a minority of voting age adults in the community, but only about 10 percent of the non-parents in a community typically vote in school board elections. Parents are more likely to vote in school board elections, so they have effective control of the school board in many communities. In all other communities, they could easily gain control the board if they voted in concert. Parents pay less than a third of school taxes in most communities, so voting for school board members who promise to support increased educational spending and higher standards is, for them, a low cost way of improving the school attended by their child. Why hasn't this potential power been exercised to raise academic standards and teacher salaries? Why are less than a third of parents voting in most school board elections? Why do so many parents vote against increases in school taxes? When additional money is available, why is so much of it spent on upgrading the sports program, band and vocational education?

If, as indicated above, the parents of a community are satisfied with academic outcomes which leave their children years behind students of other nations in mathematics and science, federal and state efforts to raise standards will have no lasting effect.

II. THE ABSENCE OF REWARDS FOR EXCELLENCE: THE ROOT CAUSE OF THE LEARNING DEFICIT

The fundamental cause of the low effort level of American students, parents, and voters in school elections is the absence of good signals of effort and learning in high school and a consequent lack of rewards for effort and learning. In the United States the only signals of learning that generate substantial rewards are diplomas and years of schooling. In all other advanced countries mastery of the curriculum taught in high school is assessed by essay examinations which are set and graded at the national or regional level. Grades on these exams signal the student's achievement to colleges and employers and influence the the jobs that graduates get and the universities and programs to which they are admitted. How well the graduating seniors do on these exams influences the reputation of the school and in some countries the number of students applying for admission to the school. In the United States, by contrast, students take aptitude tests that are not intended to assess the learning that has occurred in most of the classes taken in high school. The primary signals of academic achievement are grades and rank in class--critera which assess achievement relative to other students in the school or classroom, not relative to an external standard.

Consequently, the students who do not aspire to attend selective colleges benefit very little from working hard while in high school, and parents have little incentive to vote the tax increases necessary to upgrade the academic quality of local schools. This is a consequence of nine phenomena:

1. **Because their student bodies are so diverse, American high schools offer an incredible variety of courses at vastly different levels of rigor. Most students choose courses that have the reputation of being fun and not requiring much work to get a good grade. The rigor of the courses taken is not efficiently signaled to colleges and employers, so taking rigorous courses is seldom rewarded. Teachers know this and adjust their style of teaching and their homework assignments with**

an eye to maintaining enrollment levels. Course selection is subject to a Gresham's law in which easy electives drive out rigorous courses.

2. The peer group actively discourages academic effort. No adolescent wants to be considered a "nerd, brain geek, grade grubber or brown noser," yet that is what happens to students who study hard and are seen to study hard. Peers have a personal interest in persuading each other not to study, because the school's signals of achievement assess performance relative to fellow students through grades and class rank not relative to an external standard.[4]

3. Setting higher academic standards or hiring better teachers does not on average improve the signals of academic performance--rank in class, GPA and SAT scores--that selective colleges use for making admission decisions and a few employers use to make hiring decisions. Higher standards for graduating are not likely to be supported by the parents of children not planning to go to college, because they would put at risk what is most important, the diploma. Higher standards do not benefit students as a group, so parents as a group have little incentive to lobby strongly for higher teacher salaries, higher standards and higher school taxes.

4. There is no effective way of holding most high school and middle school teachers individually accountable for the learning of their students. Unionization is not the critical barrier, for unionized European and Japanese secondary school teachers and most American primary school teachers feel accountable for the learning of their students. The lack of accountability in the US stems from: (1) the rarity of high stakes examinations assessing student achievement in particular subjects relative to an external standard, and (2) the fact that most secondary school students receive instruction in English, mathematics, history, and science from many different teachers. The exceptions to this norm are the coaches of the atheletic teams, the band conductor, teachers of advanced placement classes, and vocational teachers (who are often evaluated for their success in placing students in good jobs). In Europe, students who are preparing to take a particular exam at the end of their secondary education typically remain together in one class and

are taught by the same teacher in successive years. In Japanese junior high schools, a team of teachers, each responsible for a different subject, teach all the 7th graders one year, the 8th graders the next year, and the 9th graders the third year. Examinations taken during 9th grade determine admission to competitive high schools so teachers feel great pressure to assure that their students do well on these examinations.

5. In most American communities, students and parents cannot choose which local public high school to attend. In Europe and Japan, by contrast, the family can, within the constraints of competitive admissions policies, often select which secondary school a student attends. Barriers to attending a school other than the closest one are lower in these countries because public transportation is available, opportunities to participate in sports and music are often organized by the community not the school, and centralized funding of schools means that money follows the student even when a non-public school is selected. The centraliztion of funding and the free choice of schools results in stronger competitive pressure on schools to excell and smaller quality differentials between schools of the same type than in the US.

6. In most American communities, studying hard in primary school and middle school does not lead to opportunities to attend a better or more rigorous high school. In Japan and most European countries, by contrast, some upper secondary schools offer more rigorous educational programs than others and there is stiff competition for admission to many of these schools. The consequence of this system is that students put a good deal more effort into their studies in lower secondary school than in the United States.

College Bound Students

7. Most American colleges and universities do not set rigorous standards for admission. High school students know that taking undemanding high school courses and goofing off in these courses will not prevent them from going to college.

8. **Where admission to college does depend on high school performance, it is not based on an absolute or external standard of achievement in high school subjects. Rather, it is based, in part, on aptitude tests which do not assess the high school curriculum, as well as on measures of student performance such as class rank and grade point averages, which are defined relative to classmates' performances.**

Non-College Bound Students

9. **The labor market fails to reward effort and achievement in high school. Analysis of the Youth Cohort of the National Longitudinal Survey indicates that during the first 10 years after leaving high school, greater competence in science, language arts and mathematical reasoning lowers wages and increases the unemployment of young men. For young women, verbal and scientific competencies have no effect on wage rates and a one grade level increase in mathematical reasoning competence raises wage rates by only one-half of one percent (Bishop 1988b). As a result, students who plan to look for a job immediately after high school see very little connection between how much they learn and their future success in the labor market. Less than a quarter of 10th graders believe that geometry, trigonometry, biology, chemistry, and physics are needed to qualify for their first choice occupation (LSAY, 1988, BA24B-BA25D).**

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 realized in higher productivity. Over the last 80 years, industrial psychologists have conducted hundreds of studies, involving hundreds of thousands of workers, on the relationship between productivity in particular jobs and various predictors of that productivity. They have found that competence in reading, mathematics, science and problem solving are strongly related to productivity in almost all of the civilian and military jobs studied (Ghiselli 1973; Hunter, Crossen and Friedman 1985; Bishop 1989).

Despite their significantly higher productivity, young workers who have achieved in high school have not been receiving appreciably higher wage rates after high school.

Apparently, when a non-college-bound student works hard in school and improves his or her competence in language arts, science and mathematical reasoning, the youth's employer reaps much of the benefit.[5]

Employers believe that school performance is a good predictor of job performance. Studies of how employers rate job applicant resumes which contain information on grades in high school have found that employers give substantially higher ratings to job applicants with high grade point averages (Hollenbeck and Smith 1984). However, they have great difficulty getting information on school performance. If a student or graduate has given written permission for a transcript to be sent to an employer, the Federal Education Rights and Privacy Act obligates the school to respond. Many high schools are not, however, responding to such requests. In Columbus Ohio, for example, **Nationwide Insurance sent over 1,200 requests for transcripts signed by job applicants to high schools in 1982 and received only 93 responses.**

An additional barrier to the use of high school transcripts in selecting new employees is that when high schools do respond, it takes a great deal of time. In most high schools, the system for responding to transcript requests has been designed to meet the needs of college-bound students rather than the students who seek jobs immediately after graduating. The result is that a 1987 survey of a stratified random sample of small-and medium-sized employers who were members of the National Federation of Independent Business (NFIB) found that transcripts had been obtained prior to the selection decision for only 14.2% of the high school graduates hired.[6] Only 15% of the employers had asked high school graduates to report their grade point average. The absence of questions about grades on most job application forms reflects the low reliability of self reported data, the difficulties of verifying it, and the fear of EEO challenges to such questions.

Hiring on the basis of recommendations by high school teachers is also uncommon. In the NFIB survey, when a high school graduate was hired, the new hire had been referred or recommended by vocational teachers in only 5.2% of the cases and referred by someone else in the high school in only 2.7%. Tests are available for measuring competency in reading, writing, mathematics, science, and problem solving; but, after the 1971 Griggs decision, almost all firms were forced to stop employment testing by EEOC guidelines which made it prohibitively costly to demonstrate test validity.[7] The 1987 NFIB survey found that basic skills tests had been given in only 2.9 % of the hiring decisions studied. Other

countries handle the signaling of high school accomplishments to colleges and to prospective employers very differently.

Incentives to Learn in Other Nations

The tendency not to reward effort and learning in high school appears to be a peculiarly American phenomenon. Marks in school are the major determinant of who gets the most preferred apprenticeships in Germany. In Canada, Australia, Japan, and Europe, educational systems administer achievement exams which are closely tied to the curriculum. While the Japanese use a multiple choice exam, all other nations use examinations in which students write essays and show their work for mathematics problems. Generally, regional or national boards set the exams and oversee the blind grading of the exams by committees of teachers. These are not minimum competency exams. In many subjects the student may choose to take the exams at two different levels of difficulty. Excellence is recognized as well as competence (Noah and Eckstein 1988).

Performance on these exams is the primary determinant of admission to a university and to particular fields of study such as medicine and law. Good grades on the toughest exams--physics, chemistry, advanced mathematics--carry particularly heavy weight. Exam grades are included in resumes and are asked for on job applications (see Exhibit 1 and 2).

In Japan, clerical, service, and blue collar jobs at the best firms 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 new hires for the firm. The criteria by which the high school is to make its selection are, by mutual agreement grades and exam results. In addition, most employers administer their own battery of selection tests prior to hiring. 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 know that they must be forthright in their recommendations because if they fail just once to make an honest recommendation, the relationship will be lost and their students will no longer be able to get jobs at that firm (Rosenbaum and Kariya 1989).

This system has the consequences one might expect. Rosenbaum and Kariya's (1990) study of the high school to work transition in Japan finds that good grades, no discipline problems, and participation in extracurricular activities all have significant positive effects on

Exhibit 1

Resume of Irish Secondary School Graduate

ADDRESS:

DATE OF BIRTH: AGE:

NATIONALITY:

TELEPHONE NO:

EDUCATIONAL DETAILS

Primary School

Post Primary

Secretarial Course

Office Procedures Course

EXAMINATIONS

Intermediate Certificate 198

SUBJECTS	
English	B - L.C.
Irish	C - L.C.
Maths	B - L.C.
Science	C
Geography	C
History	C
Home Economics	D

Leaving Certificate 198

SUBJECTS	
English	D - L.C.
Irish	C - L.C.
Maths	C - L.C.
Biology	C - H.C.
Geography	C - L.C.
French	D - L.C.
Home Economics	B - L.C.

Exhibit 2

APPLICATION FOR AN APPOINTMENT HANDLED BY MVP

16, Highfield Road, Edgbaston, Birmingham, B15 3DU Tel: 021 455 9765/0559

United Kingdom

331

Appointment applied for DISTRIBUTION PROJECTS MANAGER (B&Q) Ref.No.

PERSONAL DETAILS: (block capitals)

Surname [redacted] Title MR Forenames MERVYN JOHN

Address 7 CARNARVON GARDENS [redacted]

[redacted] Postal Code [redacted] Tel.No.Home [redacted] Work [redacted]

Marital Status M Children/Dependants (with ages) 1 x 4YRS, 1 x 1YR

Age 33 Date of Birth 5.8.56 Nationality BRITISH Place of Birth ILFRACOMBE, D

State of health OK Height 6' Weight 13st.

Any disabilities/recurrent medical problems? — Regd.disabled

Driving Licences CAR Car Owner ✓ Company Car

Endorsements, convictions, accidents, etc NONE

Leisure activities and offices held in clubs and societies CYCLING/WALKING

EDUCATION:
Secondary Education

From	To	School	Exams Taken (inc. grades)	Other achie
1966	1972	BARNSTAPLE GRAMMAR	'O' LEVEL:- ENG. LANG. (2), MATHS (1) FRENCH (2) GEOGRAPHY (3), STATISTICS (3), CHEMISTRY (3), ADDL. MATHS (6), HISTORY (6), PHYSICS (6) 'A' LEVEL:- CHEMISTRY (E), PHYSICS (E), MATHS (O)	MIDDLE SCHOOL CAPTAIN

Further Education

From	To	College/University	Course & results (inc.class/grades)	Other achi
1972	1973	UNIVERSITY OF BRADFORD	APPLIED CHEMISTRY - LEFT AFTER 1 YEAR - DOMESTIC REASONS	

Other training and qualifications (inc. in-company and external courses, etc.)

From	To	Establishment	Training/Qualifications
1979		FARNLEY COLLEGE, LEEDS	CERTIFICATE OF PROFESSIONAL COMPETENCE (HEADSTART OPS)
1983	1984	BRADFORD COLLEGE	INSTITUTE OF INDUSTRIAL MANAGEMENT CERT.
1984	1989	IN-COMPANY	NUMEROUS MANAGEMENT COURSES.

Membership of professional bodies