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ABSTRACT

The purpose of this document is to provide an overview of major trends and forces likely to affect public education in Oregon. This report is intended to serve as one source of data that could be used by state policymakers in establishing educational priorities for Oregon. The report is organized into three major categories: (1) the context of education (education and the changing nature of the work force and demographic and social trends); (2) outcomes of education (academic performance and school completion); and (3) school characteristics and resources (teacher characteristics and educational resources). (SI)

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Contents

Foreword

The purpose of this document is to provide an overview of major trends and forces likely to affect public education in Oregon. As such, it is intended to help establish a context for state education policy development and priority-setting.

David Pearce Snyder argues that:

> The principal imperative for public education during the near term future will be to help society adapt to the inevitable forces for change. There can be little doubt that, in order to do this, public education will have to adapt to these same changes. Specifically, if the purpose of education is to provide students--of whatever age--with the knowledge and competencies they will need to lead effective, rewarding lives in the future, educators will first have to gain a working understanding of that future, in order to be able to design the curriculum content and learning processes that will be most appropriate for the needs of society.

Overarching Themes

In a compendium of statistics such as this, it may be difficult to "discern the forest from the trees," or see the connections among apparently unrelated data. Here we try to point out some of the major themes that run through the information that follows, acknowledging that this is not the only interpretation possible.

- Certain critical labor market trends will have a profound impact on our society over the next 15 years. In its recent publication, *Work Force 2000,* the U.S. Department of Labor points out that "As the world economy becomes more competitive and integrated, and increasingly focused on services and information tasks, economic success will depend to a greater degree on our human capital. By the year 2000, there will be few high-wage, unskilled jobs; industries that require only unskilled labor and jobs that require only basic human skills will increasingly be done abroad. High American wages will be paid primarily to those whose knowledge or skills give them an edge in national and world labor markets. As a matter of equity within American society and competitiveness around the globe, more attention must be paid to improving the skills of all segments of the U.S. labor force."

  In Oregon, this shift in the labor market is reflected in the loss of manufacturing and construction jobs and increased employment in retail trade, business services, health care and government. Entry and advancement in this job market will depend to an increasing extent on an individual's level of education and ability to continue learning throughout life.

- The outcomes of public schooling, while adequate in terms of yesterday's requirements, may not be sufficient to maintain our competitive edge in the global economy of tomorrow. The authors of *The Subtle Danger*, interpreting the results of the NAEP literacy assessment of young adults, argue that, "The main literacy problem, over the long run, has not been that people's literacy skills have been slipping, but that literacy demands keep rising." The

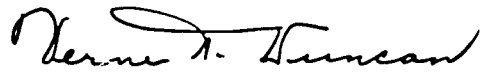
performance of Oregon's students, on the skills deemed necessary for success in a changing economy, appears to be inadequate. These results come at a time when a substantial portion of Oregon's youth are not completing high school, which significantly reduces their chances of success in the work force.

- The population of school-age children and youth is changing in ways that may make them more difficult to educate. The Education Commission of the States Business Advisory Commission states that, "Too many of our young people are not making a successful transition to productive adult life and education reform, as currently structured, is not likely to correct this Many youth are not well served by the traditional education structure. Others find the transition into the world of work exceedingly difficult." In Oregon, indications of an increasing population of "at-risk" youth are seen in the growing percentages of children living in poverty, living with single parents, born to unwed mothers, and using drugs--all of which parallel national trends.

- The resources available to Oregon school districts (derived largely from local property taxes and other local sources) are unevenly distributed, contributing to variability in per-student expenditures and property tax rates. Oregon's heavy reliance on local revenues for the operation of schools raises significant equity issues, calling into question the existence of "a uniform and general system of Common schools."

The National Association of State Boards of Education (NASBE) Task Force on State Board Leadership has recommended that state boards of education should "...develop procedures to identify long-range educational goals over a five- to seven-year cycle. By carefully analyzing the demographic, economic, political and social trends which affect public education as they set forth these goals, boards can help ensure broad public consensus on the role of education in community life." This document is one step in fulfilling that recommendation.

Verne A. Duncan



State Superintendent
of Public Instruction

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Educational reform in the United States tends to run in cycles, often following some major event that focuses attention on possible shortcomings of the educational system. In the late 1950's Sputnik shocked the United States into a frenzy of activity to reform educational programs, especially in science and mathematics. In the early 1980's, the report "A Nation at Risk" again focused major national attention on education. The activity following Sputnik tended to have a national flavor, with large amounts of federal dollars being contributed to curriculum development projects, whereas the more recent efforts mainly have been spearheaded by state policymakers.

The far-reaching implications of recently proposed or adopted reforms has placed particular stress on states' ability to find appropriate solutions to perceived problems. Often, well defined and articulated problems open the way to appropriately focused solutions. Unfortunately, state eductional policymakers often lack sufficient well-conceived information to clearly expose the nature of the problems facing education today. This is particularly true of information that fits the educational context of their state.

In a recent report on state board leadership, published by the National Association of State Boards of Education, one of the primary functions of state boards of education was to identify long-range educational goals over a five- to seven-year cycle. As a foundation for their strategic planning, state board members are encouraged to "identify education priorities by analyzing demographic, economic, social and political trends and consider the capabilities and limitations of the education system." Being able to follow this recommendation requires access to a rich source of information related to local, national and international trends.

This report is intended to serve as one source of data that could be used by state policymakers in establishing educational priorities for Oregon. It may not be as complete as many people would prefer, but represents the most complete set of data that currently exists in the state. As policy questions become clearer, future data gathering can be focused on information that will help to focus attention on the major educational concerns in the state.

The data provided in this report has been organized around a set of questions that pertain to education in Oregon. These questions are intended to serve as a starting point in establishing a data base of information to inform policymakers regarding issues affecting education. As new questions arise they will be added to the list and where possible data will be added to help clarify the issue.

The questions being addressed are organized into three major categories:

1. The Context of Education

    - Education and the Changing Nature of the Workforce
    - Demographic and Social Trends

2. Outcomes of Education

    - Academic Performance
    - School Completion

3. School Characteristics and Resources

    - Teacher Characteristics
    - Educational Resources

The following pages provide information, both opinion and factual, concerning these areas. It is important not to rely too heavily upon one piece of information in trying to establish a direction for reform, but rather put together an impression based on the accumulation of the data.

PART I: THE CONTEXT OF EDUCATION

Education and the Changing Nature of the Work Force

What skills will be needed for success in the future?

- Excerpts from national studies and reports on changing skill demands and demographic factors affecting the work force.

How is Oregon's occupational structure changing?

- Employment trends by industry
- Age of entry level work force
- Unemployment by educational attainment

Demographic and Social Trends

How many students are at risk of educational failure?

- Excerpt from *Reconnecting Youth: The Next Stage of Reform*
- Percentage of children under poverty level
- Percentage of births to unwed mothers
- Percentage of youth using drugs
- Percentage of children living with two parents

Is the potential support base for public education changing?

- PTA membership
- Education expenditures as a percent of per capita income
- Percent of families with children
- Percent of population under 20

A Changing World Economy[1]

Three years ago, the country was in the grip of the most severe recession since the Great Depression. While most Americans were deeply concerned about our economic prospects, and were persuaded that the economy could not prosper as long as the quality of education continued to decline, few perceived that the world economy was in the midst of a profound transformation, one that demands a new understanding of the education standards necessary to create the kind of high-wage work force that can compete in a global economy.

Not long ago, domestic producers of electronic appliances complained that the Japanese were able to undercut them with the use of low-paid workers. Later, many of these producers, along with many distributors and retailers, stopped complaining and contracted with low-cost producers in Japan for parts and finished products. It was widely assumed that America could continue to advance economically by producing the knowledge others would need to do the low-wage, low-skill work of actual production.

At a modern factory outside Seoul, Korean workers produce home video recorders sold under many brand names in the American market. They work seven days a week (with two days off a year), twelve hours a day. They earn $3,000 a year. Though the American market for home video recorders is big, profitable and growing, none of the machines sold here is produced in the U.S. We cannot, nor wish to, compete with these Korean workers on their own terms.

Now the Japanese are looking over their shoulders at Korea which is increasingly able to produce highly standardized goods at costs below those of the Japanese. The Japanese now realize that their continued economic progress depends on the production of goods and services incorporating state-of-the-art science and technology, an area in which the Koreans are not yet as good. So the Japanese are concentrating not just on superior manufacturing methods, an important factor in their success thus far, but on producing the knowledge needed to advance the state of the art, and incorporating that knowledge as efficiently as possible into production of new goods and services. It should come as no surprise that, just as we used to subcontract with the Japanese for the production of goods requiring little skill, the Japanese are now subcontracting with Korea and other Pacific nations.

These other countries are not likely to be long content with their assigned role as provider of the muscle, while others provide the brains. A short time ago an American executive of a firm that had just located a manufacturing plant in Singapore was told by a high government official: "You came here because of our cheap labor and low taxes. You will stay because of the quality of our labor force."

We focus on America's economic relationship with the Far East only to illustrate the mechanisms of a worldwide economic transformation. Advancing technology and the changing terms of international trade are remolding the basic structure of international economic competition. Both technology and capital now move across international borders with unprecedented ease and speed, seeking the lowest cost structures available for actual production. Products made and services rendered in the far corners of the earth can now be transported at very low cost to the world's largest markets. In those

[1]From: A Nation Prepared: Teachers for the 21st Century, Carnegie Forum on Education and the Economy, 1986.

cases in which products and services can be produced by people with low skills who are willing to work hard for relatively low wages, the technology and capital will move to their doorstep. By low skills, we mean here the "basic skills" of minimum competence with written words and numbers, skills now possessed by many peoples of the world.

These developments challenge the most basic premises of the American economic system. This country developed the world's most productive economy in part by mass production techniques that made it possible to employ workers with modest skills to turn out high quality, inexpensive products in great volume. The economic benefits were passed on to workers in the form of rising wages, which they used to create a steadily expanding market for the goods and services they produced.

The key was the machinery. Very expensive machines were designed so as to reduce to a minimum the skills needed to operate them. Many skilled craftworkers were required, of course, but most jobs could be performed by unskilled and semi-skilled workers. The cost of the machines could be justified on the basis of the enormous market for the goods they produced, so the cost for each finished unit was very low. This is precisely the area in which we are today being beaten, because the same machinery is now available to others who are willing to work much longer hours than we are, at much lower wages, and markets are no longer national but worldwide. These new basic industry and mass production workers, like the turn-of-the century American immigrant, are willing to work very hard because they see an opportunity to better themselves and the lives of their children.

If America wants to compete on the same terms as it did in the past--making the most of the workers with low skill levels--then it must accept prevailing wage levels for low-skilled and semi-skilled labor. That is, we must be prepared for a massive decline in our standard of living. The alternative is to revise our view of the role of the worker in the economy. In the future, high-wage level societies will be those whose economies are based on the use on a wide scale of very highly skilled workers, backed up by the most advanced technologies available.

Some of America's premier firms operate on precisely such principles. There will always be enough highly educated people to meet their needs. But a handful of firms cannot sustain the American standard of living. If it is to be sustained, most of American business will have to emulate them, and their ability to do so will depend in part on a vast upgrading of the American work force.

While it is easy to move capital and technology, it is exceedingly difficult to create and sustain the conditions under which very large numbers of people become and remain well educated. When they are well educated, they more than pay for their high salaries by adding more to the value of the products they create and the services they offer than less skilled workers can possibly match. Investment in people requires far greater lead time than investment in machinery. Countries that fail to invest enough, or in time, will find the costs--sluggish productivity growth, joblessness, and declining real income--very high.

Concern over the quality of education in this country has been expressed in repeated warnings from the Education Commission of the States' Task Force on Education and Economic Growth, the President's Commission on Industrial Competitiveness, the National Alliance of Business and others. Yet we believe most Americans still do not fully understand the gravity of the situation just described. Much of the rhetoric of the recent education reform movement has been couched in the language of decline, suggesting that standards have slipped, that the education system has grown lax and needs to return to some earlier performance standard to succeed. Our view is very different. We do not believe the educational system needs repairing; we believe it must be rebuilt to match the drastic change needed in our economy if we are to prepare our children for

productive lives in the 21st century. It is no exaggeration to suggest that America must now provide to the many the same quality of education presently reserved for the fortunate few. The cost of not doing so will be a steady erosion in the American standard of living.

But even if by some economic miracle this country could remain competitive without rebuilding our education system, we must do so for other compelling reasons: equal opportunity for all our children and preservation of an informed population capable of self-government--a citizenry with a shared sense of democracy and a vision of our potential as a nation.

Learning in a Knowledge-Based Economy

Much of our system of elementary and secondary education evoived in the context of an economy based on mass production. It emphasized development of the routinized skills necessary for routinized work. A whole administrative system grew up to specify what routine skills were needed, including methods of student testing which are particularly well suited to the measurement of discrete, routine skills. These are skills that are now called "basic," the fundamentals of computation, the reading of straightforward texts, and the ability to recite the basic principles of democratic government. Teachers were engaged to convey these routine skills to students, based on texts written by others. A large bureaucracy emerged that tried to make this system work as smoothly as possible. The design of the bureaucracy was modeled on the factories in which many of the school graduates would work.

Now, many other countries, emulating this system, have large work forces whose mastery of routine skills equals or exceeds our own. Many of these countries are now in a position to compete in industries based on the use of large numbers of low-skill workers. These are the countries beating us at our own game.

As our system of secondary education evolved, provision of the practical skills required to pursue a vocation were emphasized for those not going to college. Despite periodic pressures for high intellectual standards in the curriculum for the college-bound, the curriculum largely reflects a smorgasbord of topics designed to keep students in school and off the streets.

It is not surprising that employers complain that graduates of such schools (and often graduates of colleges, too) find it hard to do the increasingly complex work required of them. They do not learn easily on the job, are unable to read complicated material, evaluate or make complex arguments, write well, or apply quantitative concepts and methods to unfamiliar problems.

The country is in a trap of our own making. Not all of our children actually master the basic skills. America has a serious functional literacy problem that must be corrected. However, as we seek to regain former levels of performance, we use the old measures to assess progress against the old goals. Over the last few years, many schools have demonstrated significant gains in student performance on standardized test scores and other measures of basic competence. But, at the same time, too many students lack the ability to reason and perform complex, non-routine intellectual tasks. We are doing better on the old goals, often at the expense of making progress on the goals that count the most. Because we have defined the problem of the schools in terms of decline from earlier standards, we have unwittingly chosen to face backwards when it is essential that we face forward.

The skills needed now are not routine. Our economy will be increasingly dependent on people who have a good intuitive grasp of the ways in which all kinds of

physical and social systems work. They must possess a feeling for mathematical concepts and the ways in which they can be applied to difficult problems, an ability to see patterns of meaning where others see only confusion; a cultivated creativity that leads them to new problems, new products and new services before their competitors get to them; and, in many cases, the ability to work with other people in complex organizational environments where work groups must decide for themselves how to get the job done.

Such people will have the need and the ability to learn all the time, as the knowledge required to do their work twists and turns with new challenges and the progress of science and technology. They will not come to the workplace knowing all they have to know, but knowing how to figure out what they need to know, where to get it, and how to make meaning out of it. Even more important, if this country is to remain true to itself, our children should grow up to be humane and caring people, imbued with a set of values that enables them to use their skills in the service of the highest goals of the larger society.

They will, of course, have to have a basic stock of facts and know how to carry out basic procedures, but it will be essential for them to understand how those facts were derived and why those procedures work. They will spend a lifetime deciding which facts are relevant and which procedures will work for a constantly changing array of problems.

It is important to be clear on one point. A knowledge-based economy in which learning and real intellectual effort are not highly valued is a contradiction in terms. Visitors to Japan and other newly successful countries on the Pacific rim report an omnivorous desire for knowledge, a regard for learning, and a belief that effort devoted to education will be rewarded. Some observers of the economic scene believe that these qualities account for Japan's economic success as much or more than others that are much more widely offered. The same qualities can be observed in many recent Asian immigrants to this country whose disproportionate success in our schools is a matter of record. The European tradition of intellectual rigor in the schools also persists. In our country, by contrast, real intellectual effort in schools is not often demanded by parents and is generally frowned upon by students' peers.

Success, then depends on the whole society coming to place a much higher value not just on schooling but on learning. This demands a redefinition of the purposes of schooling, one that goes way beyond the inculcation of routine skills and the acquisition of a stock of facts. An economy based on people who think for a living requires schools dedicated to the creation of environments in which students become very adept at thinking for themselves, places where they master the art of learning and acquire a strong taste for it.

Our argument, then, is simple. If our standard of living is to be maintained, if the growth of a permanent underclass is to be averted, if democracy is to function effectively into the next century, our schools must graduate the vast majority of their students with achievement levels long thought possible for only the privileged few. The American mass education system, designed in the early part of the century for a mass-production economy, will not succeed unless it not only raises but redefines the essential standards of excellence and strives to make quality and equality of opportunity compatible with each other.

Employability: Student Needs, Business Needs[2]

Our public education system has two vital functions to perform. First, it should prepare youngsters to become responsible citizens who can make informed decisions on essential personal and public issues. Second, it should impart to students those skills and attributes that will enable them to succeed in productive employment or in the pursuit of higher education.

In these goals, the interests of business and education converge dramatically. Students need to be able to qualify for good jobs when they are ready to seek them; business needs broadly educated employees who have learned how to learn and who can adapt to the changing conditions of the workplace.

What Students Need to be Employable. At one time, employers were fairly confident that a high school diploma meant a potential employee had acquired skills, knowledge, and behavior that would be useful in the workplace. Because of the decline in educational performance and discipline in recent decades, business can no longer assume that young people graduate from school adequately prepared to read, write, reason, calculate, communicate, or accept responsibility. Many large corporations have found it necessary to inculcate skills and behavior patterns not already developed in school.

Mastery of the old basics of reading, writing, and arithmetic may be sufficient for entry-level jobs, but because of the constantly changing nature of work, minimum skills are not sufficient preparation for career advancement. Schools must make a greater effort to develop higher-level skills, such as problem solving, reasoning, and learning ability. These are also the same attributes that are critical to success in higher education.

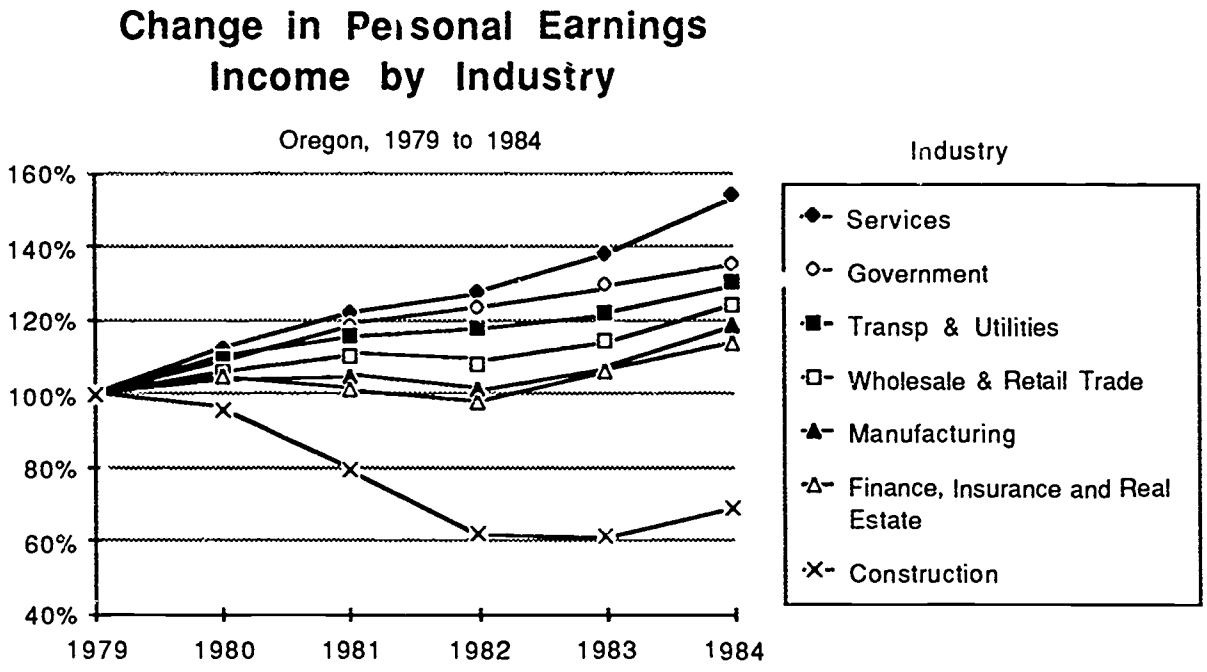
In 1983 and 1984, this Committee conducted an in-depth assessment of the employment needs of industry in order to gauge the gap between expectation and reality on the part of personnel officers and managers of both large and small firms. The results of this survey confirm what has long been suspected by the business community: Specific occupational skills are less crucial for entry-level employment than a generally high level of literacy, responsible attitudes toward work, the ability to communicate well, and the ability to continue to learn.

The survey's findings convey three strong messages:

- First, for entry-level positions, employers are looking for young people who demonstrate a set of attitudes, abilities, and behaviors associated with a sense of responsibility, self-discipline, pride, teamwork, and enthusiasm.
- Second, employers put a strong value on learning ability and problem-solving skills. [Learning how to learn was ranked by both large and small companies as the most important attribute for getting ahead.]
- Third, employers do not think that the schools are doing a good job of developing these much-needed abilities.

[2]From: Investing in Our Children, Committee for Economic Development, 1985.

How is Oregon's occupational structure changing?



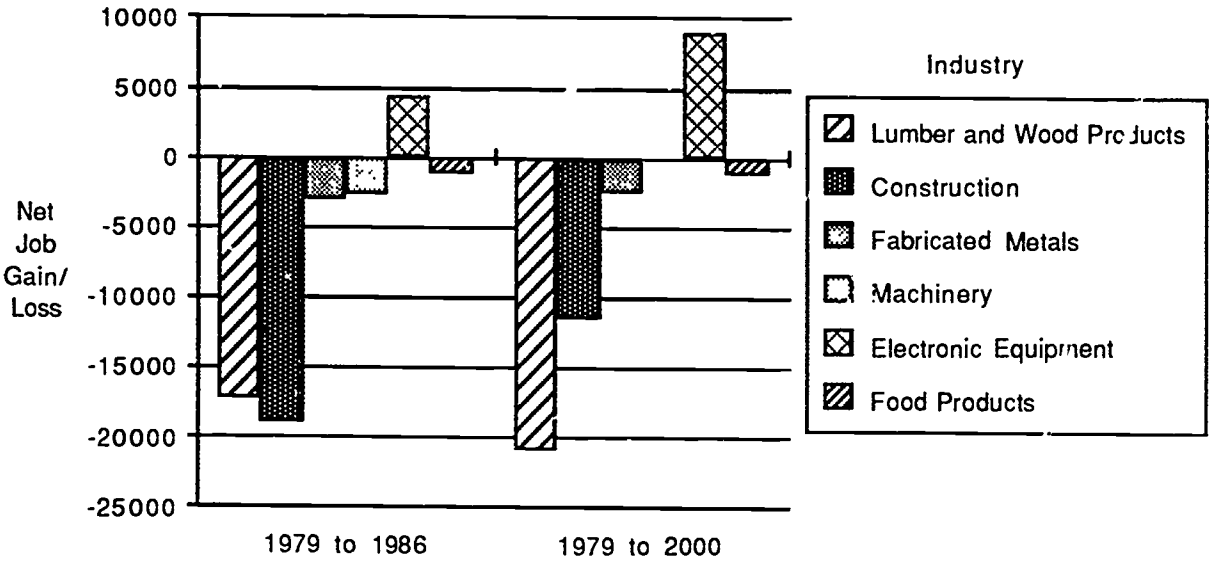
Source: Regional Economic Information System, Bureau of Economic Analysis, April 1986.

The industrial employment mix of Oregon's economy has shifted dramatically. The number of jobs in manufacturing decreased between 1979 and 1986 by over 59,000 [when construction is included with manufacturing]. The growth of approximately an equal number of jobs in nonmanufacturing offsets the manufacturing employment decline...

Oregon's economy has followed the changing industry employment trends. Along with the reduction of employment in manufacturing and construction, there has been a net job loss of approximately 40,000 craft workers, operatives and laborers between 1979 and 1986. Economic recovery and future growth in goods-producing industries are unlikely to bring these jobs back. The increasing use of computerized production and the restructuring of work have permanently reduced the need for these kinds of job skills. The occupational mix in Oregon has shifted, and will continue to shift, towards professional and technical workers. (Excerpt from *Oregon Workforce 2000,* Oregon Employment Division, June 1987.)

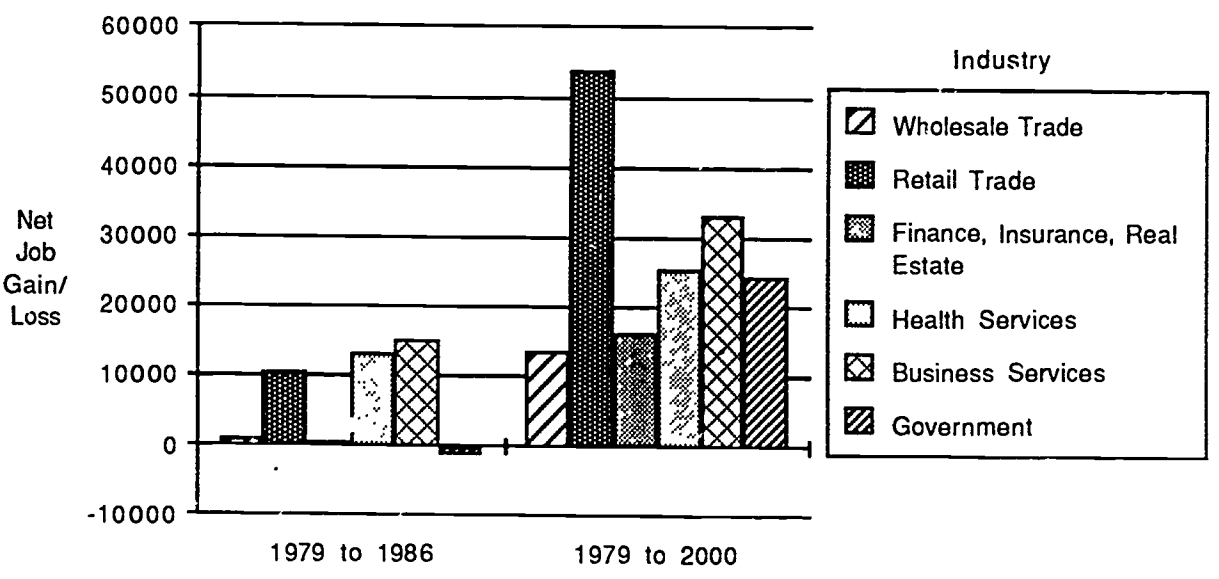
Change in Manufacturing Employment

Oregon, 1979 to 1986 and 1979 to 2000*



Change in Nonmanufacturing Employment

Oregon, 1979 to 1986 and 1979 to 2000*

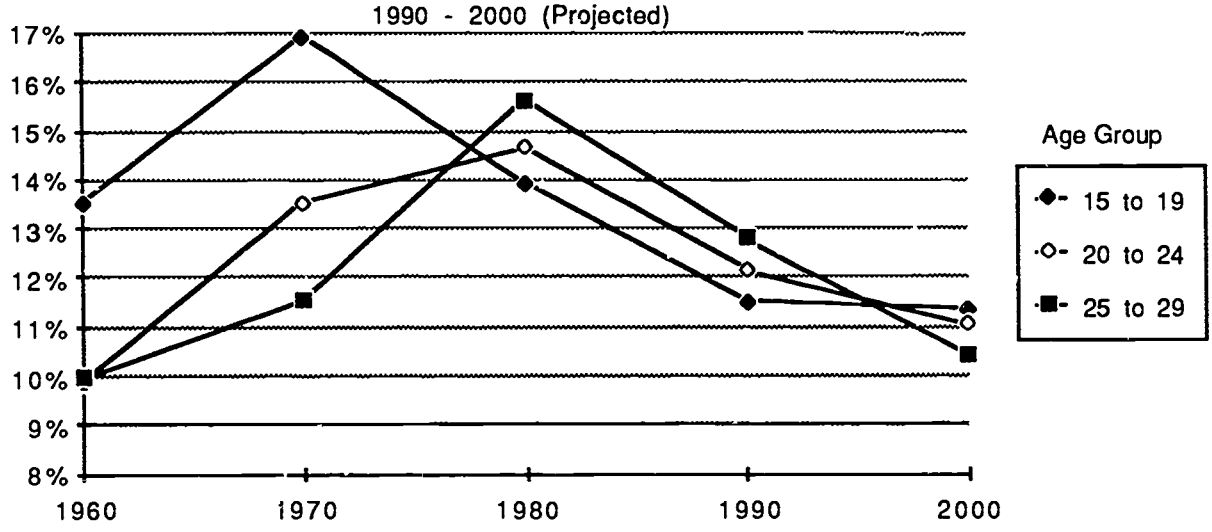


*Year 2000 projections reflect both Employment Division and Bonneville Power Administration preliminary long-term trend forecasts. Source: *Oregon Workforce 2000,* Oregon Employment Division, June 1987.

How is Oregon's occupational structure changing?

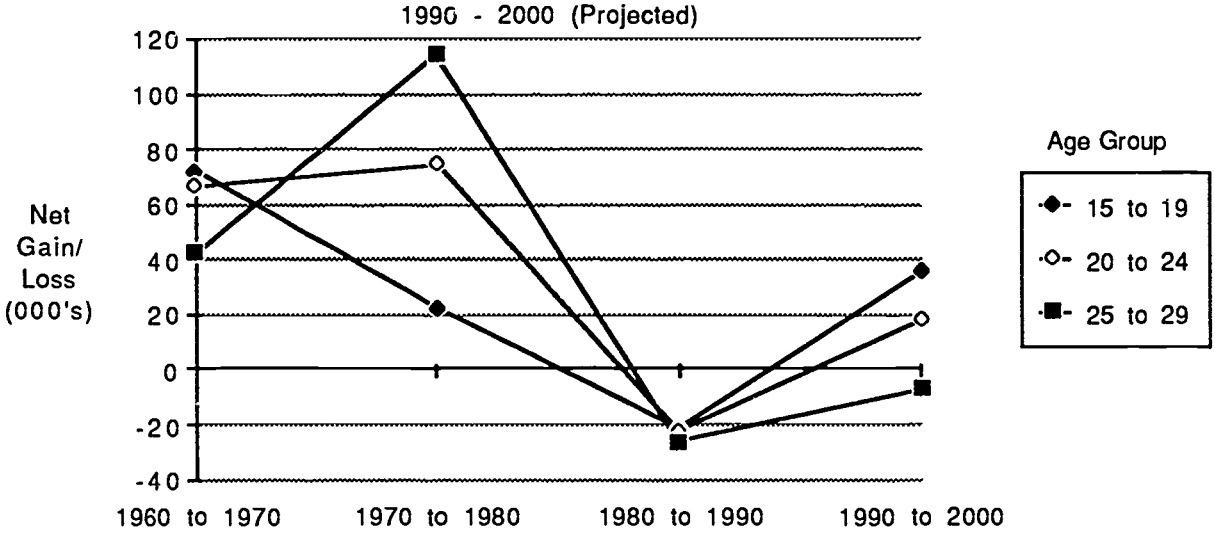
Entry Age Populations as a Percentage of Working Age Population (Age 15 to 59)

Oregon, 1960 - 1980 (Historical)
1990 - 2000 (Projected)

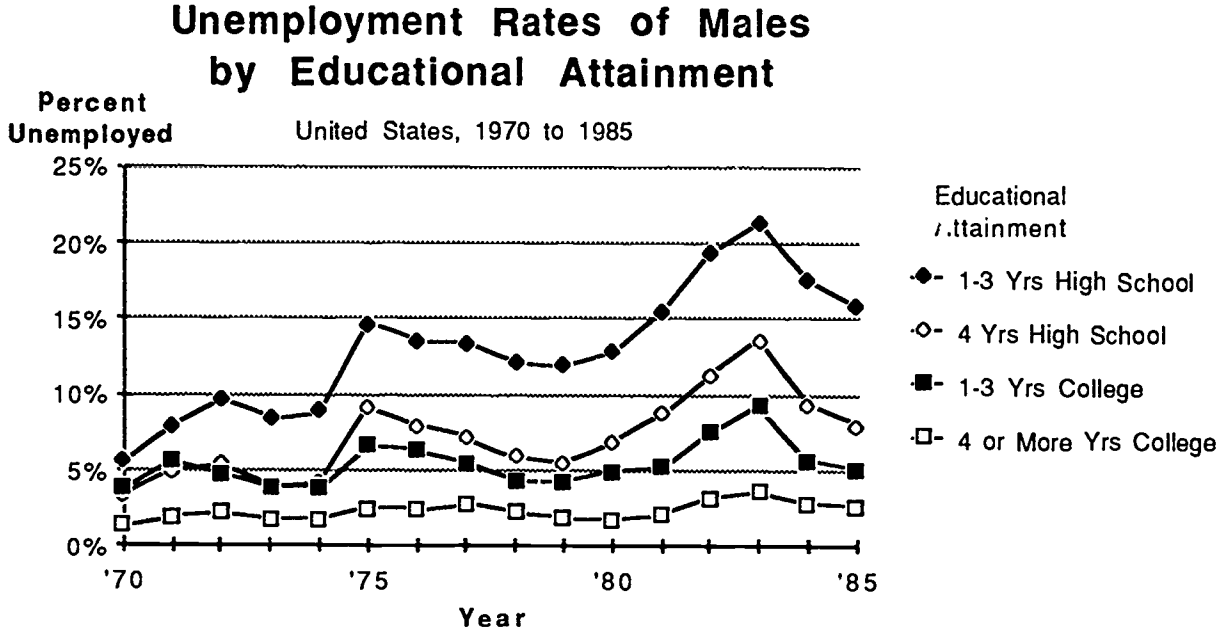


Population Change by Age Group and Decade

Oregon, 1960 - 1980 (Historical)
1990 - 2000 (Projected)



A decline in the number of young adult workers may create labor shortages in both entry level positions and in various skilled jobs. The result could be more emphasis on automation and higher wages to attract workers not currently in the labor force, or who are from out of state or have other occupations. Opportunities for disadvantaged workers to obtain entry-level jobs may also improve considerably in the 1990s. (From *Oregon Workforce 2000,* Oregon Employment Division, June 1987.)



Source: U.S. Department of Labor, Bureau of Labor Statistics, *Handbook of Labor Statistics*, Bulletin 2217.

Many of Oregon's high school trained work force historically enjoyed a good standard of living as operatives, craft workers and laborers. Clearly the forecast does not look good for tnese types of jobs. Over 70 percent of Oregon's unemployed in 1986 had 12 or fewer years of education.

Of the new jobs that pay a higher than average wage and are not part-time, most will require training beyond high school. Many of the growing number of professional/technical jobs will require training in science, engineering, medicine, math, business, education, or law. Cross training in several areas of learning will become more important. Increasingly, the roles of the problem solver and technician are becoming inseperable. Changing technology requires workers to be adaptable and multi-skilled. (Excerpt from *Oregon Workforce 2000*, Oregon Employment Division, June 1987).

Reconnecting Youth

The Problem[1]

The problem, simply stated, is this: a growing proportion of our young people are not making successful transitions to productive adult lives. They are paying a heavy price. We, as a society, are paying a heavy price. In the years ahead, the costs are going to get higher.

In 1978, young adults constituted 23 percent of the U.S. population. By 1995, they will constitute 16 percent, shrinking by one-quarter the size of the entry-level labor pool. Within that shrinking labor pool is a growing pool of "at-risk" young men and women: people in their teens and early twenties who *could* become productive citizens but most likely will not unless something out of the ordinary happens. They have the intelligence to succeed, but they lack important skills, family support, discipline and the motivation to make it. An unconscionably disproportionate number of them are poor, Black and Hispanic youth.

A decade ago, many businesses could affort to ignore these young people. They can no longer do so. Business and industry already spend $40 billion annually to train employees. The employees of the late eighties will be even more expensive to train. Increasingly, the private sector will find itself teaching them remedial reading, writing and mathematics. By 1990, education and training in the public and private sectors may constitute the largest industry in America.

Our choices are clear. We can do nothing to reduce the numbers of youth disconnecting from school, work and the values and benefits they confer. We can hope the problem will go away with an improved economy or some kind of technological revolution. We can believe that this problem is peculiar to certain cities and does not affect the health of the nation. We can say it is "the schools'" responsibility or "the government's" responsibility or someone else's cause. We can say that the problems of youth who are truly at risk defy solution.

It would be wiser, and far less costly, to act now. A number of factors suggest that the time is ripe:

- *Successful public, private and collaborative programs for turning those young people around exist.* Some unmotivated youth are being motivated. Some unskilled youth are being trained. Some disconnected adolescents are being reconnected to the values and vehicles most likely to guarantee a productive life. We know it can be done.
- *Educational reform is well under way in every state.* This momentum for change can be used to move reform into a more comprehensive phase in which the problems of at-risk youth can be more directly addressed.
- *Business and industry are restructuring* in response to a profound transformation in the world economy. We have learned much about how to get "extraordinary performance out of ordinary people" and how to revitalize

[1]Excerpt from: Reconnecting Youth: The Next Stage of Reform, Business Advisory Commission, Education Commission of the States, October 1985.

faltering institutions. That "how-to" can be shared with the schools and brought to bear on youth problems.

- *Interest in public service for youth is high and growing.* State, local and national service opportunities hold great potential for harnessing the energies of young people, developing their confidence and skills, and building bridges to their further education and steady employment.
- *New institutional forms, combining public and private interests, are being developed.* The current collaborative environment is ideal for addressing complex, multi-sector problems.

Who Is At Risk?

At-risk youth are young people who face uncertain futures as workers and citizens. At stake is whether they will move into productive adult lives or fall into patterns of chronic failure that deepen their alienation and dependency upon the welfare system.

Three categories of youth are of major concern:

- **The alienated.** These young people are uninterested or dissatisfied with the values represented by school and work. They lack motivation to succeed in expected ways, they have poor school and work attendance records, and do not perform near their potential. Some are passive, others are defiant. Economic resources are not at issue. most alienated students come from the middle classes. Nor is alienation an urban problem; alienated students are everywhere.
- **The disadvantaged and alienated.** These young people exhibit all the symptoms of alienation but have, in addition, problems associated with being economically disadvantaged. A disproportionate share of these young people are minorities, a fact that complicates their problems and community efforts to help them in school or the workplace. Most of them lack basic social and academic skills. Most lack family support, useful networks and self-esteem. All could make strong contributions to their communities and lead productive adult lives if they got the right help at the right time.
- **The disadvantaged.** These young people have family support and motivation to succeed, but they suffer from various effects of economic deprivation and racial discrimination. Although they are not yet alienated, they are at risk of becoming so and at risk of never moving into satisfying, long-term employment.

Many alienated and disadvantaged/alienated students run away from home or drop out of school or fail to keep jobs or commit various minor crimes. However, their numbers are not the same as numbers of runaways, dropouts, unemployed or teenage offenders. No official statistics exist for them. It is not unreasonable, however, to believe that all three of the groups above constitute 10 to 15 percent of the 16- to 19-year-old age group, nationally. In major cities, it is not unreasonable to extimate that *half* the high school population is at risk. We are talking about, by conservative estimate, 1,250,000 White, 750,000 Black and 375,000 Hispanic 16- to 19-year-olds at risk. Addressing this issue, then, is not a matter of social responsibility alone. It is an urgent task central to the country's further economic and social development.

Disconnecting From School

About 700,000 students dropped out of school last year and another 300,000 were chronic truants. In cities such as New York, Philadelphia and Chicago, the dropout rate is over 40 percent.

Rates are much higher for minorities and the poor. Students in the bottom third of the socioeconomic ladder have three to four times the dropout rate of those from affluent families. Black and Hispanic rates are one and one-half to two times higher than White students.

The problem is not just a minority problem or an urban problem; it is widespread. Since 1970 the dropout rate for Blacks has actually decreased nationally, while the rate for White students has edged up. In rural and suburban schools, dropout rates have either risen or stubbornly resisted efforts to lower them since 1965. Even if the rates for all groups were to stabilize, the situation would be worse than it used to be: our standards for schools and students are getting higher. The bottom rung of the "ladder of success" may be moving out of some students' reach.

Not all dropouts and "occasional" students are at-risk young people. Within two years of leaving school, about a quarter of them enter various training programs. About 14 percent of the males and 9 percent of the females enter the GED program leading to a high school equivalency certificate. Others will "find themselves" in various ways. Most, however, will drift along in a limbo that involves neither school nor promising work.

Two-thirds of the students we are concerned about drop out because they have given up on the school as a vehicle for their success. They do not believe it will work for them because it hasn't worked for them all their lives. They do not have the desire, hope and motivation that schools tend to reward. Schools are for someone else. In disconnecting from school, these teens disconnect from the values and ideals the schools embody and promote. To use a phrase that became the title of the Carnegie Council on Children's final report, these young men and women see "small futures" for themselves.

Experienced teachers and administrators can predict which students will most likely drop out even when the students are in the primary grades. They can identify alienated students, whether they drop out or continue to attend school fitfully and profitlessly. Disconnection is not a tragedy because it happens; it is a tragedy because many people saw it coming for years and did nothing about it.

Ironically, some of the recent recommendations for improving schools will not touch the at-risk students or will affect them adversely. As emphasis on individual academic achievement rises, low achievers are likely to throw in the towel. As standards for athletic participation go up, other low achievers, who have stayed in for the self-esteem and recognition they get from sports, will drop by the wayside. We favor higher standards. We think at-risk students can meet them with the right kind of help. But, unless schools can take special measures to keep "on-the-edge" students from going over the edge, we can expect dropout rates to rise.

Broader Disconnections

Dropping out and unemployment present real and urgent problems in themselves. But they are also symptoms of underlying problems with the nation's integrative systems. Other symptoms also suggest that traditional American ways of integrating generations and ethnic groups into the mainstream are under stress:

- Teenage pregnancy and childbirth rates have grown for all teens, regardless of ethnicity and socioeconomic status. More than one million teens become pregnant each year. Most of these teenagers do not marry.
- Arrests of people under 18 for drug abuse increased 60-fold between 1960 and 1980. Arrests for drunkenness among high school seniors rose by 300 percent between 1960 and 1980.
- Young people under age 21 account for more than half of all arrests for serious crimes. In 1960, 18- to 24-year-olds accounted for only 18 percent of all arrests; by 1980, they accounted for 34 percent.
- The homicide rate for non-White teens increased 16 percent between 1950 and 1978, while the rate for Whites increased an astounding 232 percent.
- Death by suicide among teenagers increased for all groups. The suicide rate for Whites rose 177 percent between 1950 and 1978, while the rate among non-Whites rose 162 percent. A teenager commits suicide every 90 minutes.

Increases in youth suicide, crime, drug use and pregnancy are independent phenomena with their own origins. No one would suggest that a single causal mechanism underlies them, but these are all signs of alienation and disconnection. All suggest that family, community, school and other agencies of socialization and integration are not working as they once were

Certainly, there is evidence that the American family is changing. In 1970, 85 percent of children under 18 years of age lived with two parents; today, the proportion is just under 75 percent. The proportion of single-parent families has just about doubled since 1970, rising from 13 percent to 26 percent. Most Black children do not live in two-parent homes: 49 percent live with one parent and 8 percent live with neither parent. A third of Hispanic children live with one parent.

We do not know all of the consequences of growing up in single-parent families. However, research does confirm that various indicators of disconnection, such as dropping out, truancy, delinquency and poor academic performance, are linked to family education support variables. We know that the number of parents in the home and the work status of the mother have significant effects on student achievement.[2] Encouragement by parents to spend more time reading and doing homework, their availability to attend in-school programs, extracurricular activities and parent-

[2]Ann Milne, David Myers, Alvin Rosenthal and Alan Ginsburg, "Single Parents, Working Mothers and the Educational Achievement of School Children," Revised version of two papers presented at the Annual Meeting of the American Educational Research Association, April 1985.

teacher conferences are critical. We know that single parents have less time to spend with their children than is the case in families where both parents are present.[3]

Recent trends in adolescent pregnancy and parenthood are of particular concern. The birth rate of unmarried teenagers increased by 29 percent between 1970 and 1982. When coupled with the increasing tendency for teenagers to raise their own children, the result is an increasing number of single teenage parents. Last year, unwed teens gave birth to 650,000 babies. Many of these young mothers do not return to school. Teen parents who drop out place their children at risk.

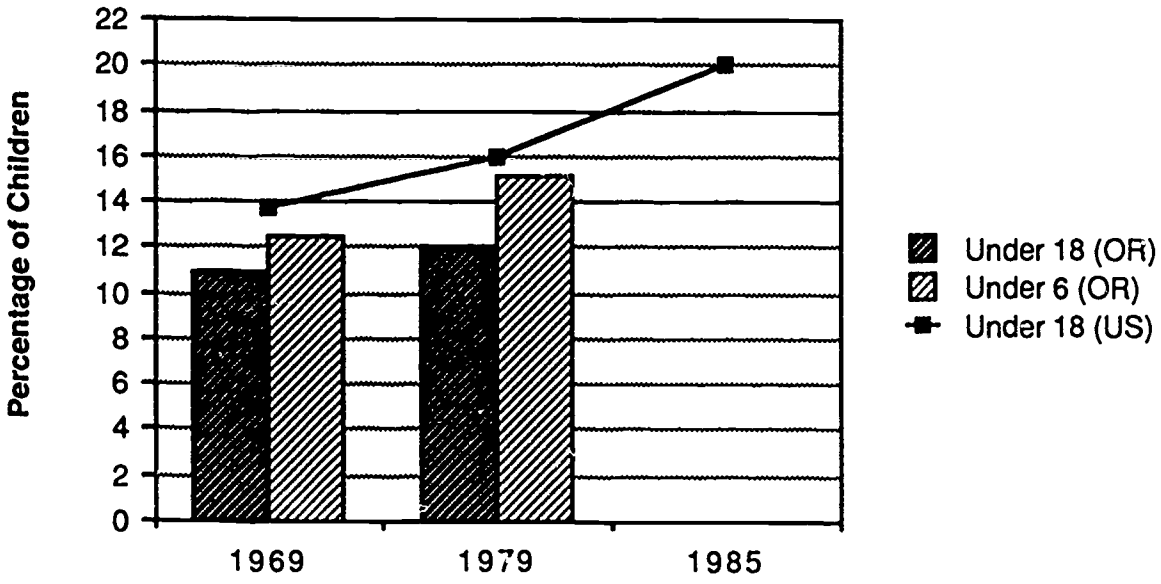
Reconnecting Our Youth

We have examined a serious problem. Too many of our young people are not making a successful transition to productive adult life and education reform, as currently structured, is not likely to correct this. Many youth are not well served by the traditional education structure. Others find the transition into the world of work exceedingly difficult. We are concerned because youth are the key to this country's economic prosperity and social development. Students who drop out and lack skills for employment are more often unemployed that others. They have higher crime and delinquency rates. They pay little in taxes and appear more often on welfare rolls. For corporate America, and for state and local governments, they represent a $20 billion-a-year loss.

[3]Frank Howell and William Frase, "Early Transition into Adult Roles: Some Antecedents and Outcomes," *American Educational Research Journal*, Vol. 19, 1982. For a review of the literature, see E. M. Hetherington, et al., "Cognitive Performance, School Behavior and Achievement of Children From One-Parent Households," Report prepared for the Families as Educators Team (National Institute of Education, 1981).

Percentage of Children Under Poverty Level

Oregon, 1969 and 1979
United States, 1969, 1979 and 1985

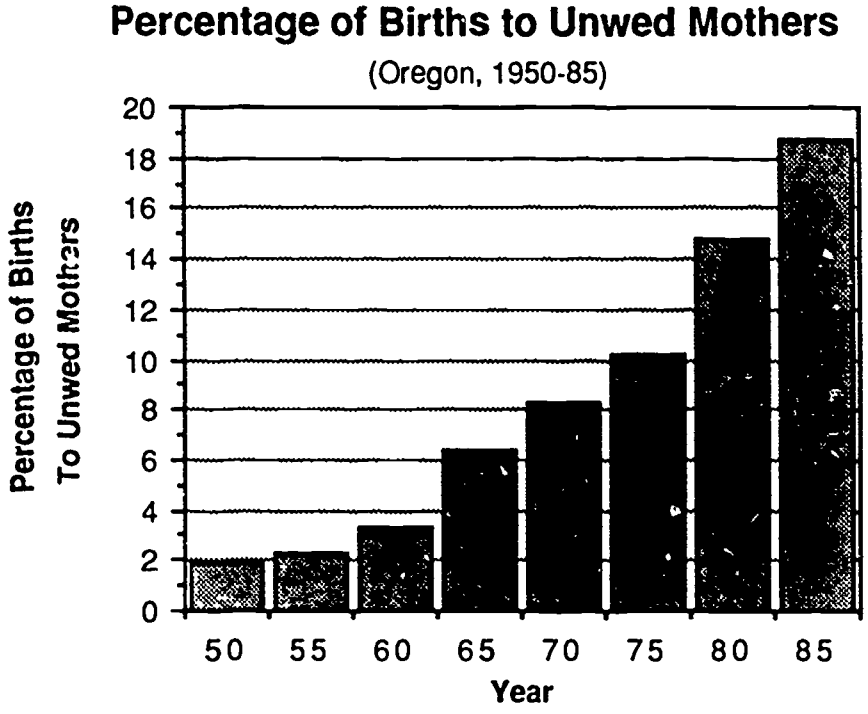


From 1969 to 1979, the percentage of Oregon children under 6 years old in poverty increased from 12.5 to 15.2 percent, a relative growth of 22 percent.

For children under age 18, Oregon's percentage in poverty increased from 10.9 to 12.0 percent, paralleling the growth of the U.S. percentage during the 1970s. The increasing national percentage of children under the poverty level suggests that Oregon's rate has continued to increase during the 1980s.

The official poverty measure judges members of a family to be poor if the family has a cash income (counted before taxes are subtracted) that is less than three times the cost of a nutritionally adequate but minimum diet, and indexed to reflect price increases. In 1983, the official poverty threshold for a family of four was roughly $10,000.

Source: U.S. Department of Commerce, Bureau of the Census.



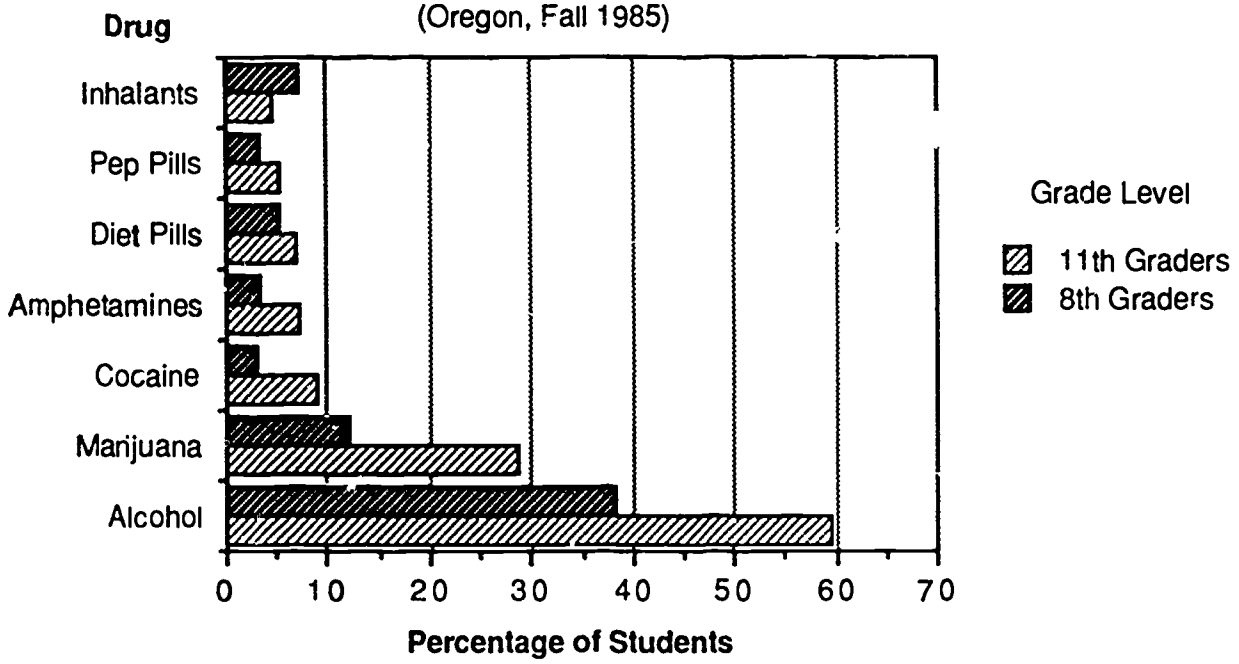
Out of each 1,000 Oregon births in 1985, 187 were to mothers who were not married. This is an eight percent increase in the rate from 1984, and an 85 percent increase from 1975.

Marital status is significantly linked to birth outcome. Unwed mothers are more likely to give birth to low weight babies, with a rate of 83.4 per 1,000, compared to 43.8 low birth weight infants per 1,000 births for married mothers. Many link the low birth weight outcome of unwed mothers to their high rates of inadequate prenatal care.

Unwed mothers tend to be younger than married mothers. In 1985, 32 percent of unwed mothers were under 20 years of age, while only 5.6 percent of married mothers were in this age group.

Source: Oregon Health Division, *Oregon Vital Statistics, 1985.*

Percentage of Youth Using Drugs Within the Preceding 30 Days



- In a 1985 survey of drug use by Oregon public school students (grades 8 and 11), alcohol was the most widely used drug on a monthly basis--38 percent of 8th graders and 60 percent of 11th graders reported using alcohol within the preceding 30 days.

- Marijuana was used within the preceding 30 days by 12 percent of the 8th graders and 29 percent of the 11th graders.

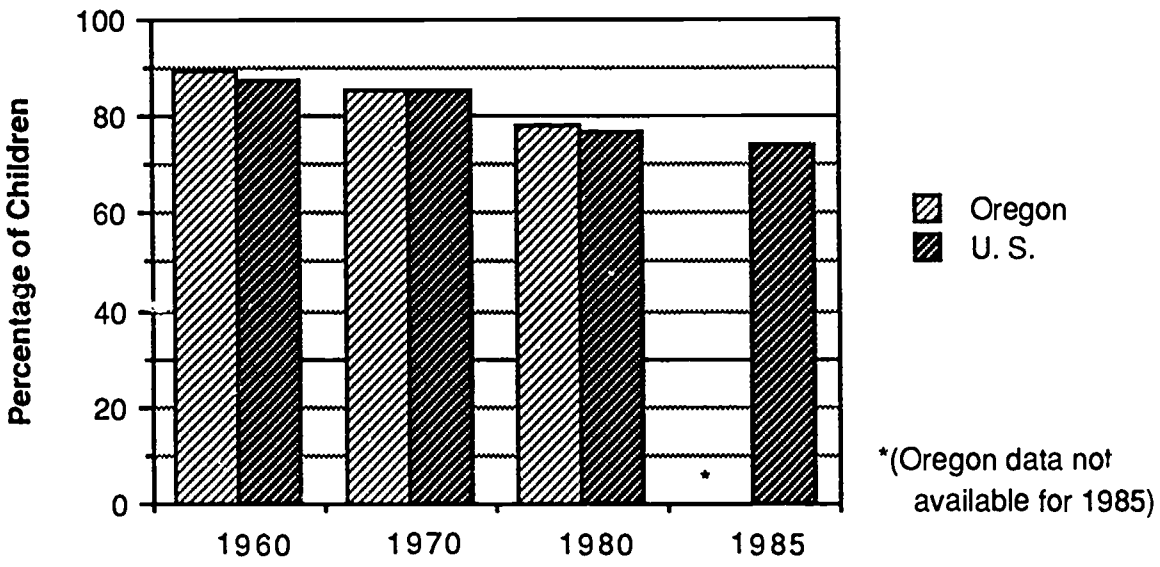
- Cocaine was used within the preceding 30 days by 3 percent of the 8th graders and 9 percent of the 11th graders.

- Comparisons with national data on drug use by high school seniors indicate that Oregon 11th graders have higher rates of monthly use for marijuana (29% OR vs. 26% US), cocaine (9% OR vs. 7% US), and inhalants (4.7% OR vs. 3% US). The monthly use of alcohol is lower in Oregon than nationwide (60% OR vs. 66% US).

Source: Oregon Office of Alcohol and Drug Abuse Programs, *Drug Use by Oregon Public School Students, 1985 (Preliminary Report).*

Percentage of Children Under 18 Living With Two Parents

(Oregon and United States, 1960 to 1985)



The percentage of Oregon's children under age 18 living with two parents declined from 89.7 percent in 1960 to 78.4 percent in 1980. Conversely, the percentage living with a single parent or neither parent increased from 10.3 to 21.6 percent.

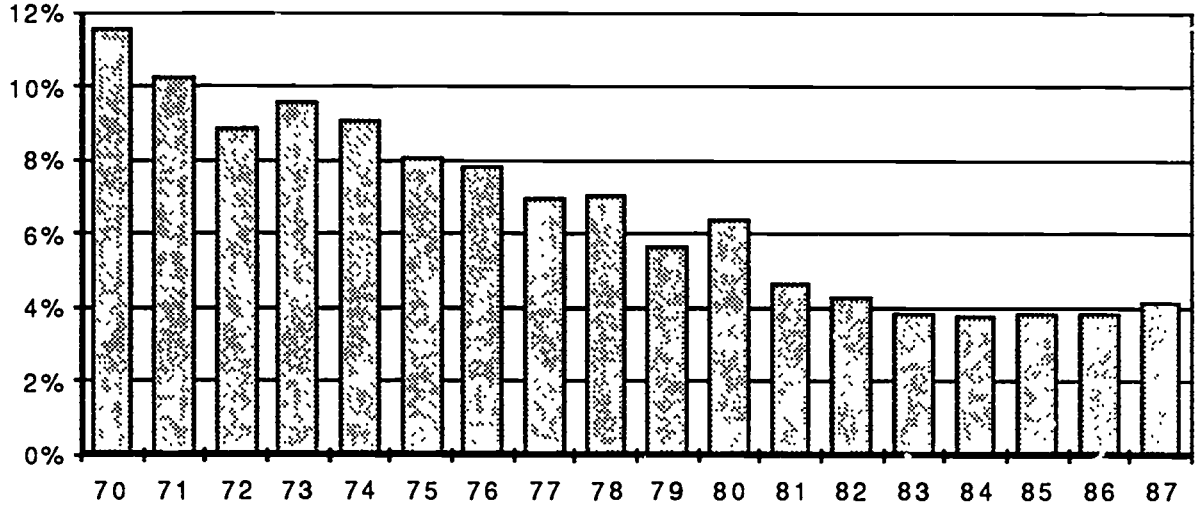
Oregon's trend has closely matched the U.S. percentage, which continued to decline in 1985, reaching a low of 73.9 percent.

Source: U.S. Department of Commerce, Bureau of the Census.

Is the potential support base for public education changing?

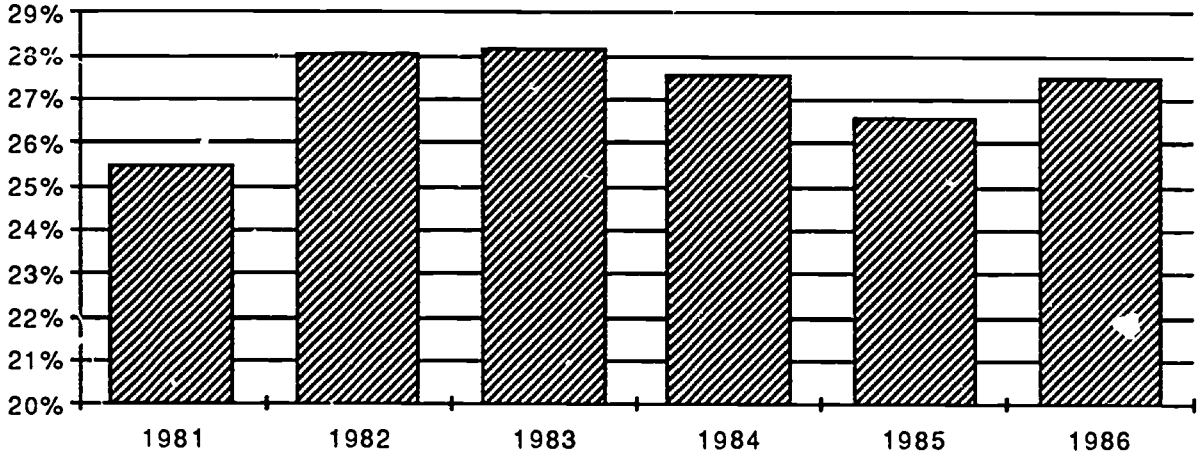
Oregon PTA Membership as a Percentage of K-12 Enrollment

1970 to 1987



Current Expenditures Per Pupil for Public Elementary/Secondary Education as a Percentage of Per Capita Personal Income

Oregon, 1981 to 1986



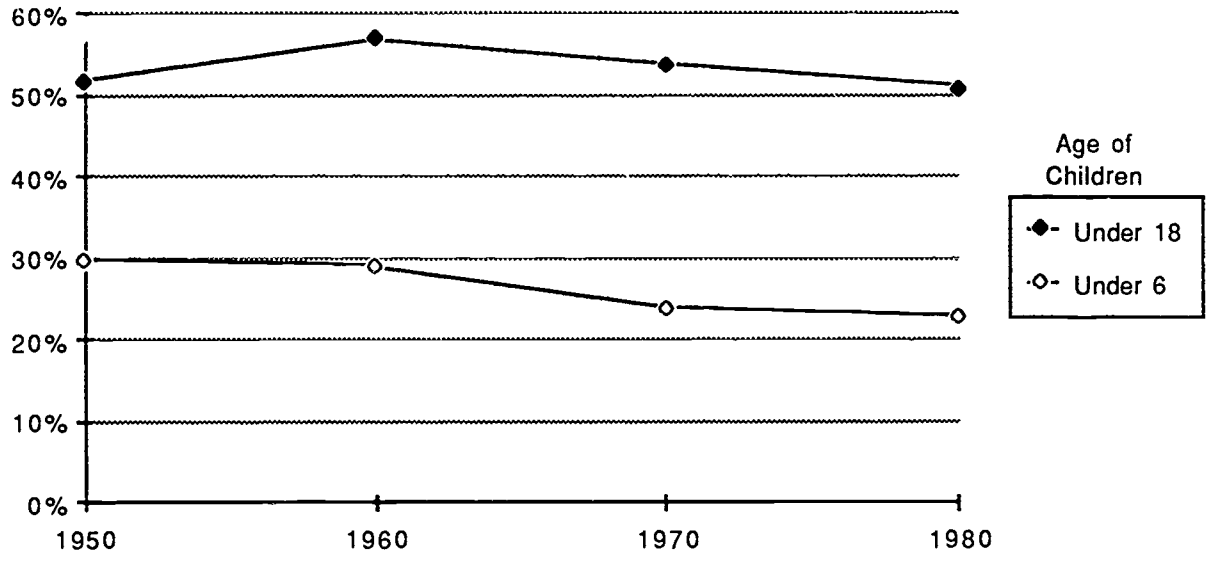
Public and parental support for education is reflected in numerous ways. Oregon PTA membership has declined during the past two decades. However, it should be noted that alternative parent-school organizations and activities (locally governed) may have supplanted some of the earlier PTA membership.

Oregonians are relatively willing to invest in public education. In 1985 the state ranked 7th in the nation on expenditures per pupil as a percent of per capita personal income.

Is the potential support base for public education changing?

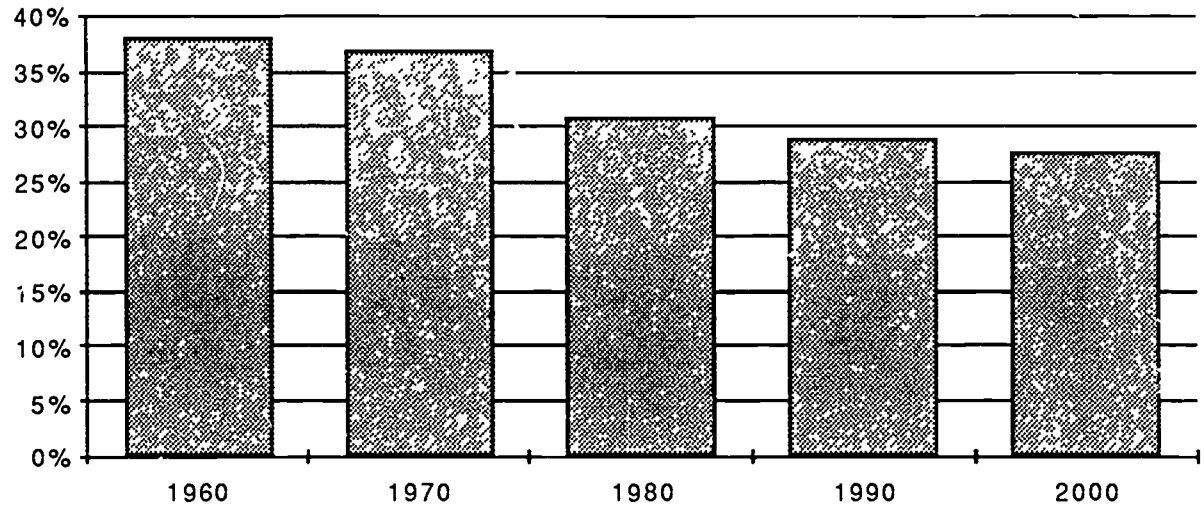
Percentage of Families with Children

Oregon, 1950 to 1980



Children and Youth Under 20 as a Percentage of Total Population

Oregon, 1960 - 1980 (Historical), 1990 - 2000 (Projected)



The decline in Oregon's birth rate since the 1960s will result in a smaller proportion of youth in the population, and a smaller percentage of families with children.

Source: U.S. Department of Commerce, Bureau of the Census (Historical data), and Center for Population Research and Census, Portland State University (Projections).

PART II: OUTCOMES OF EDUCATION

Academic Performance

How well are students performing on the skills they will need in the future?

- Eighth grade achievement on Essential Learning Skills
- Findings from national literacy studies
- Findings from Second International Mathematics Study

How well are we preparing students who graduate from high school?

- Performance on the Scholastic Aptitude Test
- Years of coursework in selected areas of study
- Enrollment in vocational education
- Pursuits of vocational program completers
- Percentage of college freshmen enrolling in English Composition or Intermediate Algebra
- Intended areas of college study

School Completion

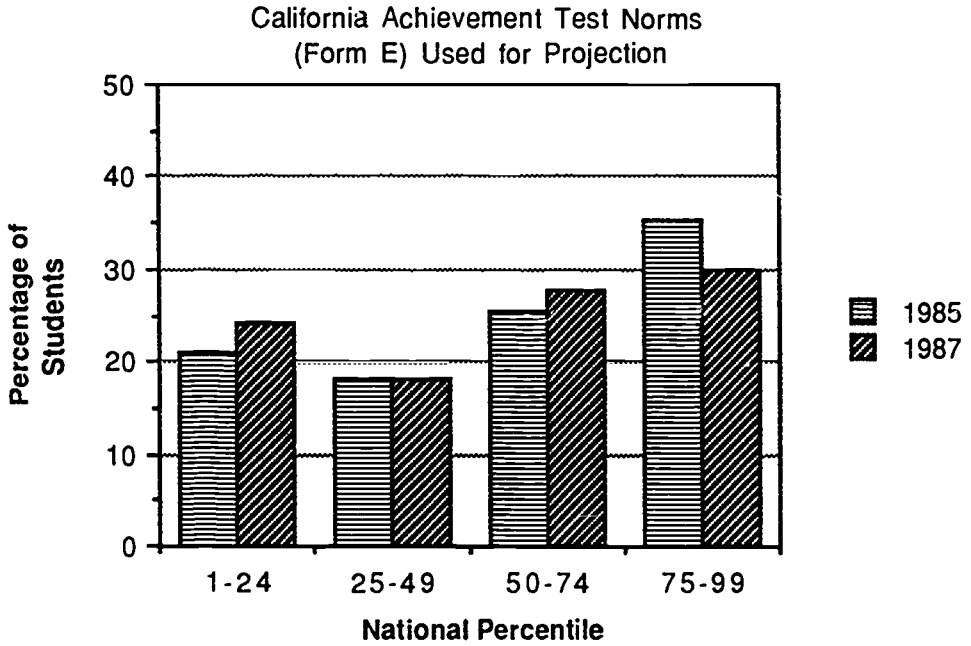
How many students don't receive a high school diploma?

- High school graduation rate
- Annual attrition rate

How well are students performing on the skills they will need in the future?

Oregon Reading Achievement

Projected National Norms for Eighth Graders



1985 State Median = 63rd Percentile

1987 State Median = 58th Percentile

Although the performance of Oregon Students is above the projected national norm, the performance from 1985 to 1987 indicates a decline. This decline is reflected by an increased proportion of students who scored low (the 1st-24th percentiles) and a drop in the percent of the highest achieving students (the 75th-99th percentile range).

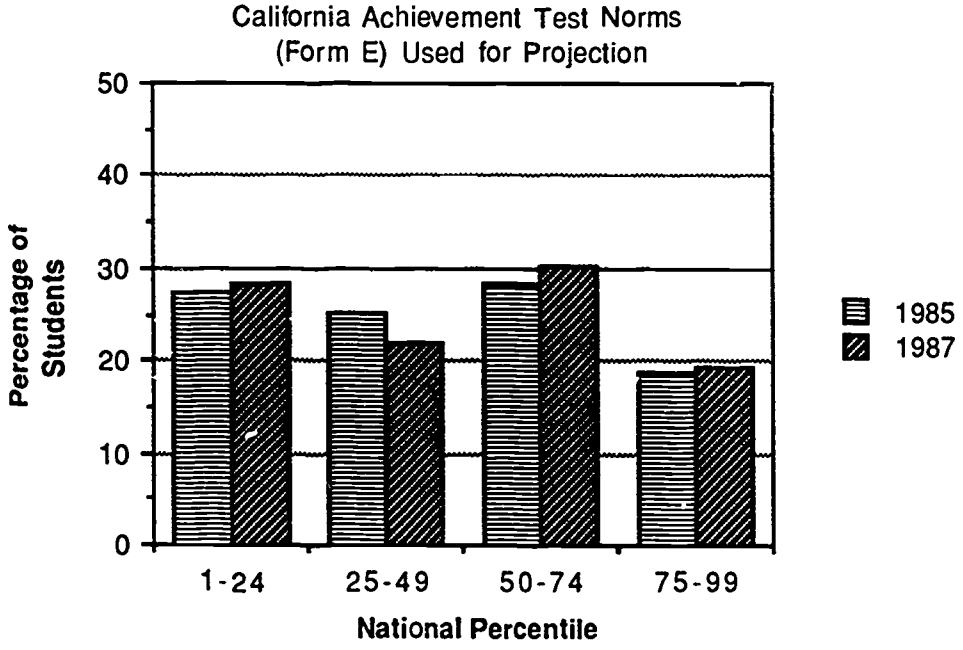
The pattern of student achievement in Oregon matched national findings where students are able to perform basic reading tasks, but lack skills in logic, inference, and synthesis which are viewed as necessary skills in an information age.

Source: 1987 Oregon State Assessment (Sample of 4,807 students)

How well are students performing on the skills they will need in the future?

Oregon Mathematics Achievement

Projected National Norms for Eighth Graders



1985 State Median = 48th Percentile

1987 State Median = 49th Percentile

There was a slight overall improvement in mathematics achievement from 1985 to 1987, but the percent of low achieving students increased over that period. In 1987 there were also fewer high achieving mathematics students in Oregon than in the national norm group.

Oregon students scored the highest on arithmetic skills. The other areas tested--geometry, measurement, mathematical relationships, estimation and problem solving--were significantly lower than the arithmetic skills achievement.

Results from the Oregon test paralleled the results of an international study of mathematics achievement where U.S. eighth grade students scored much better on arithmetic skills than they did on non-arithmetic areas.

Source: 1987 Oregon State Assessment (Sample of 4,807 students)

How well are students performing on the skills they will need in the future?

Oregon Writing Achievement

1987 Statewide Assessment

- Writing skills of Oregon eighth grade students were tested in 1985 and 1987. Essays written for these two years were analyzed on the traits of content development, organization, voice, word choice, sentence structure and conventions. Results from both years indicate that many students can write papers that are grammatically correct and contain correctly spelled words, but have trouble organizing and developing their ideas, and using words that enrich their writing.

- Results from 1987 indicated some improvement in writing, especially in the areas of grammar and spelling, and in organization of ideas.

- Most papers written for these assessments were not classified as outstanding nor extremely deficient. They were characterized as having both strengths and weaknesses.

- Students' ability to produce well developed papers appear to be limited by a lack of diversity in their language, which limits their concept development.

- Many Oregon teachers of eighth graders need training in teaching students how to write and in analyzing student writing.

LITERACY: Profiles of America's Young Adults

National Assessment of Educational Progress 1985

National Assessment of Educational Progress (NAEP) assessed the literacy skills of America's young adults (aged 21-25).

NAEP characterized the literacy skills of America's young adults in terms of three "literacy scales" representing distinct and important aspects of literacy:

- Prose Literacy--the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and the like;
- Document Literacy--the knowledge and skills required to locate and use information contained in job applications or payroll forms, bus schedules, maps, tables, indexes, and so forth; and,
- Quantitative Literacy--the knowledge and skills needed to apply arithmetic operations, either alone or sequentially, that are embedded in printed materials, such as in balancing a checkbook, figuring out a tip, completing an order form, or determining the amount of interest from a loan advertisement.

Major Findings

- The literacy problem identified for the nation's young adults can be characterized in two ways: While the overwhelming majority of young adults adequately perform tasks at the lower levels on each of the three scales, sizable numbers appear unable to do well on tasks of moderate complexity. Only a relatively small percentage of this group is estimated to perform at levels typified by the more complex and challenging tasks.

- Inevitably, smaller percentages of young adults are found to perform at increasing levels of proficiency on each of the scales. The fact that fewer and fewer individuals attain these moderate and high levels of proficiency is most pronounced for young adults who terminate their education early and for minority group members.

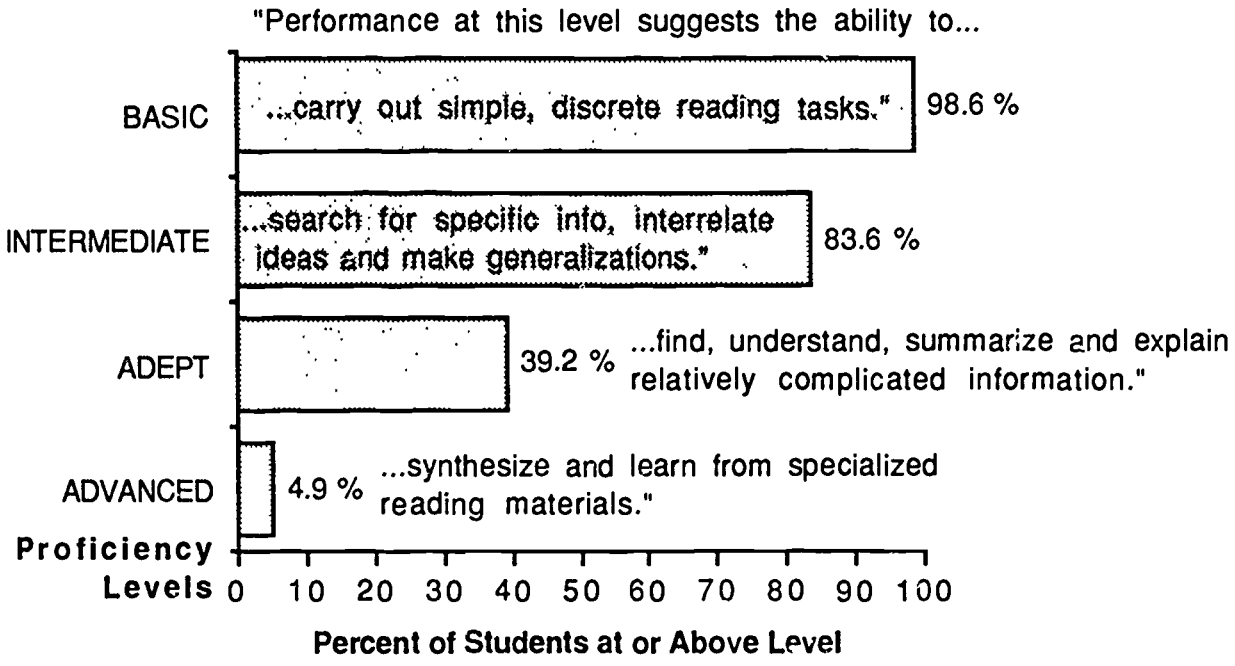
- Home-support variables (such as parents' education and access to literacy materials) were found to be significantly related to the type and amount of education and to the literacy practices reported by young adults. These in turn, help to explain differences in literacy-skill levels.

- Only about two percent of this young-adult population were estimated to have such limited literacy sklills that it was judged that the simulation tasks would unduly frustrate or embarass them. Roughly one percent (or about half) of this group reported being unable to speak English.

How well are students performing on the skills they will need in the future?

Reading Proficiency Levels of 17-Year Olds

United States, 1984



While young people leaving high school generally have good command of the mechanics of reading, the proportion able to analyze and explain more complicated material is very low.

Source: Educational Testing Service, National Assessment of Educational Progress,
The Reading Report Card: Progress Toward Excellence in Our Schools,
1985.

How well are students performing on the skills they will need in the future?

International Comparison of United States Mathematics Achievement

This 1981-82 study assessed students in 17 countries at two age levels. The first population was at the eighth grade in the U.S. and most other countries, except Japan and Hong Kong which was the seventh. The second population was twelfth grade college-preparatory mathematics. The graphs on the following pages and the following comments illustrate the major results of this study.

- U.S. students were slightly above the international average in computational arithmetic (calculation) and well below the international average in non-computational arithmetic (e.g., problem-solving).

- Achievement in geometry for the U.S. was among the bottom 25 percent of all countries, reflecting to a large extent low teacher coverage of this subject matter.

- In the U.S. calculus classes, the achievement of the nation's best mathematics students, was at or near the average achievement of the advanced secondary school mathematics students in other countries. (In most countries, all advanced mathematics students take calculus. In the U.S. only about one-fifth do.)

- The achievement of the U.S. precalculus students (the majority of twelfth grade college-preparatory mathematics students) was substantially below the international average. In some cases, the U.S. ranked with the lower one-fourth of all countries in the Study, and was the lowest of the advanced industrialized countries.

- The extent of coverage by U.S. mathematics teachers of topics on the international test was typically at or below the international average for most content areas, at both grade levels. Within the United States, coverage varied a great deal among classes. That is, marked differences in opportunites to learn mathematics were found between students.

How well are students performing on the skills they will need in the future?

- In contrast to many other countries (most notably, Japan), the United States curriculum is dramatically differentiated at the eighth grade school level. Four mathematics programs were identified, each with vastly different mathematical content, ranging from algebra for the most able students to grade school arithmetic for the least able students.

- The U. S. mathematics curriculum is characterized by a great deal of repetition and review, with the result that topics are covered with little intensity. By contrast, at this level, France places a great deal of emphasis on geometry and Japan provides an intense treatment of algebra.

- The eighth grade mathematics curriculum in the U.S. tends to be "arithmetic-driven," resembling much more the end of elementary school than the beginning of high school.

- The teaching load of U.S. mathematics teachers, from an international point of view, is high. By contrast, Japanese teachers have rather light teaching loads, especially at the advanced level.

- The textbook defined "boundaries" for mathematics taught by U. S. teachers at both grade levels. Limited use was made of resources beyond the textbook for either content or teaching methods.

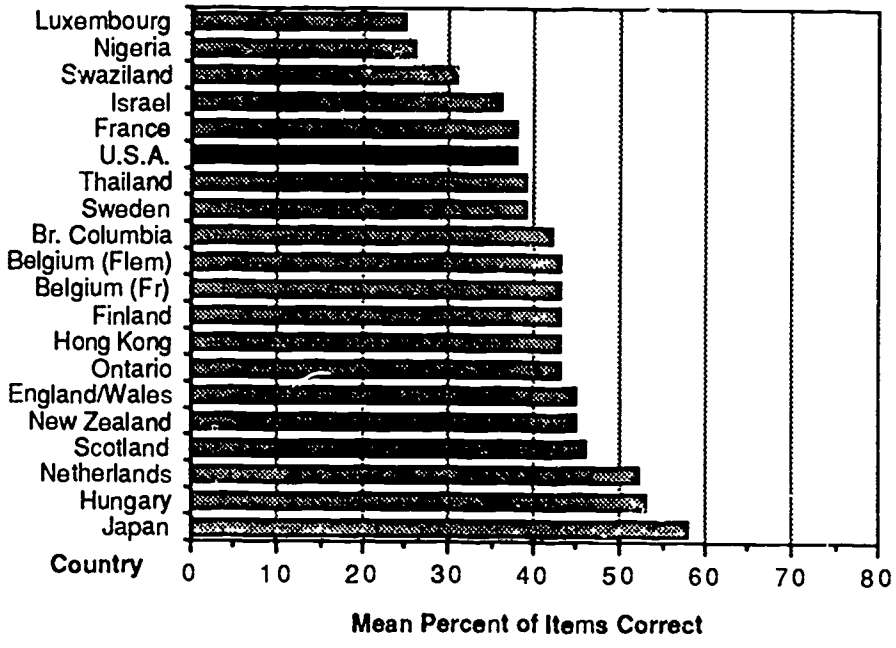
- More calculator use at the lower secondary school level was generally found in Europe than in the United States.

- Calculator use in advanced (college preparatory) mathematics classes was common, not only in the U.S., but in most countries. About one-third of the U.S. advanced classes used calculators in class two or more times a week.

How well are students performing on the skills they will need in the future?

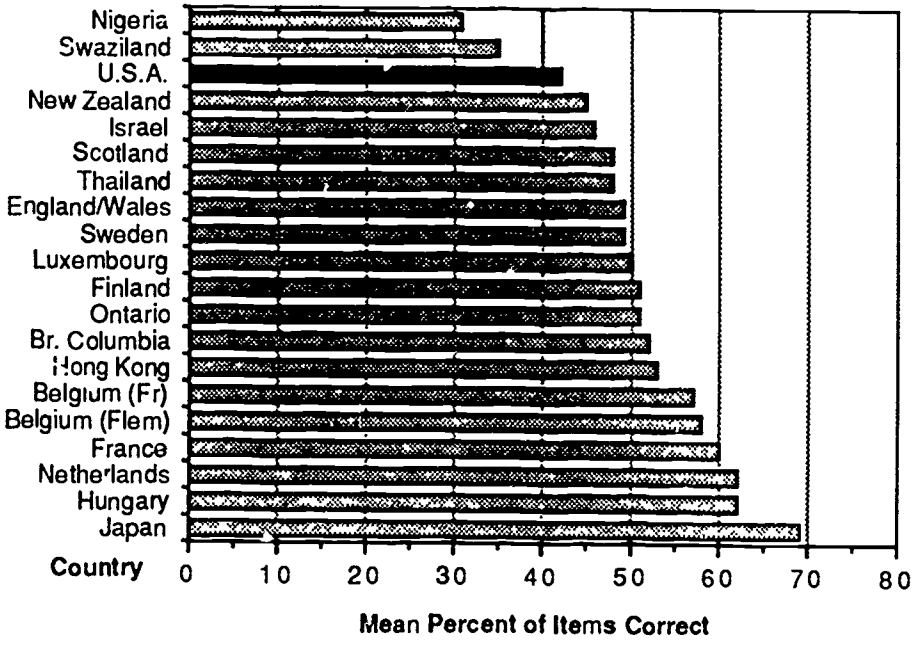
Eighth Grade Achievement--Geometry

Second International Mathematics Study



Eighth Grade Achievement--Measurement

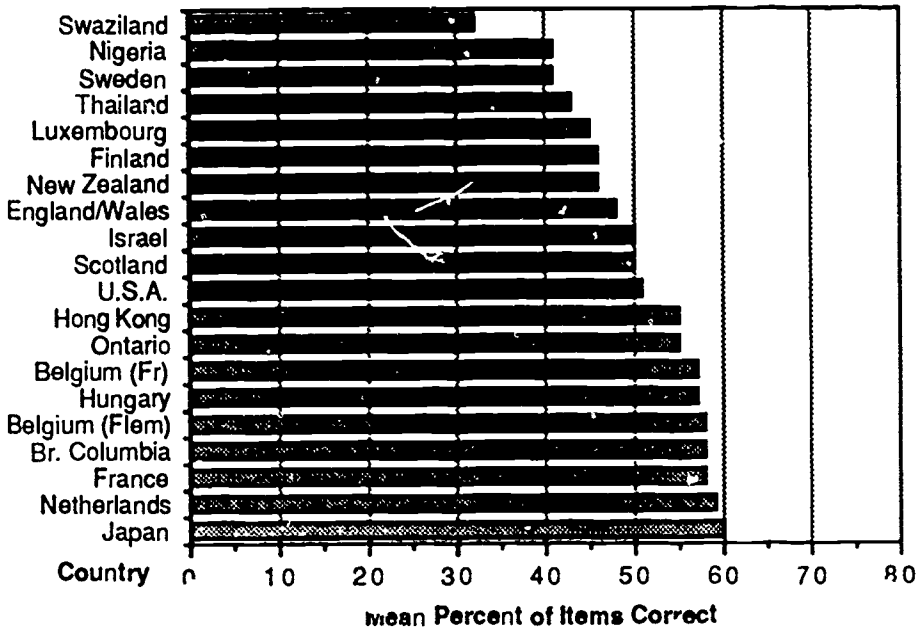
Second International Mathematics Study



How well are students performing on the skills they will need in the future?

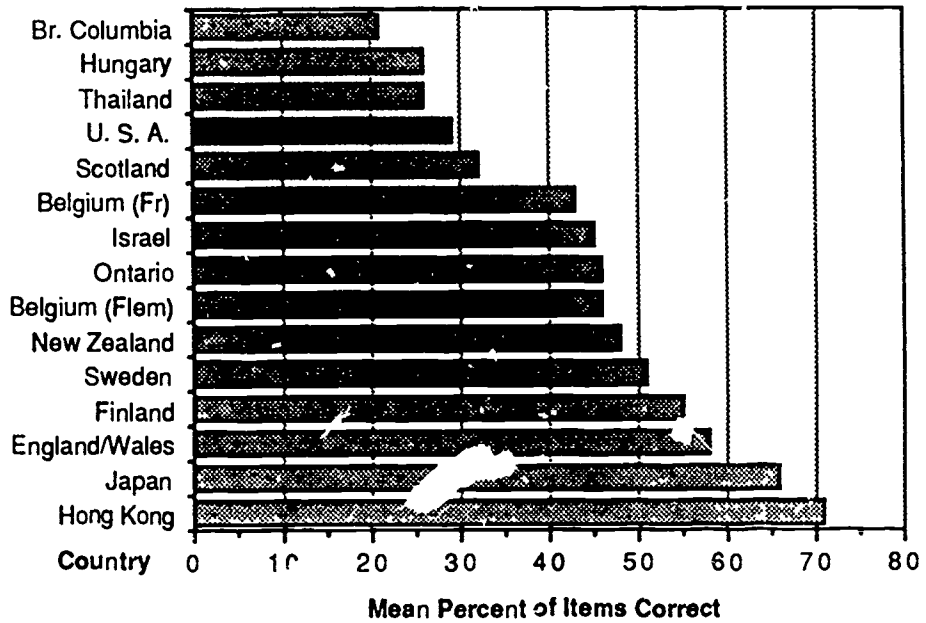
Eighth Grade Achievement--Arithmetic

Second International Mathematics Study



Twelfth Grade Achie ement--Elem. Functions/Calculus

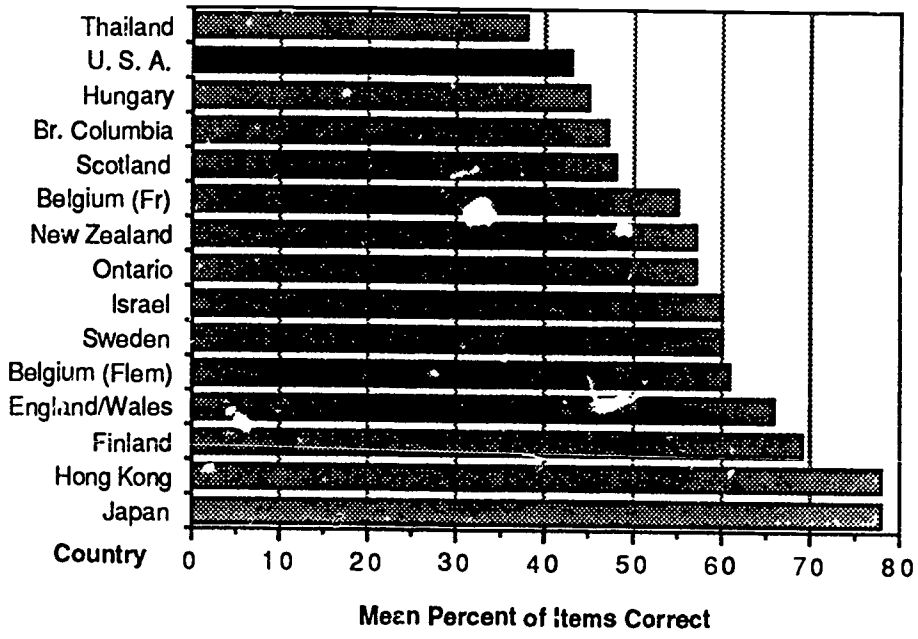
Second International Mathematics Study



How well are students performing on the skills they will need in the future?

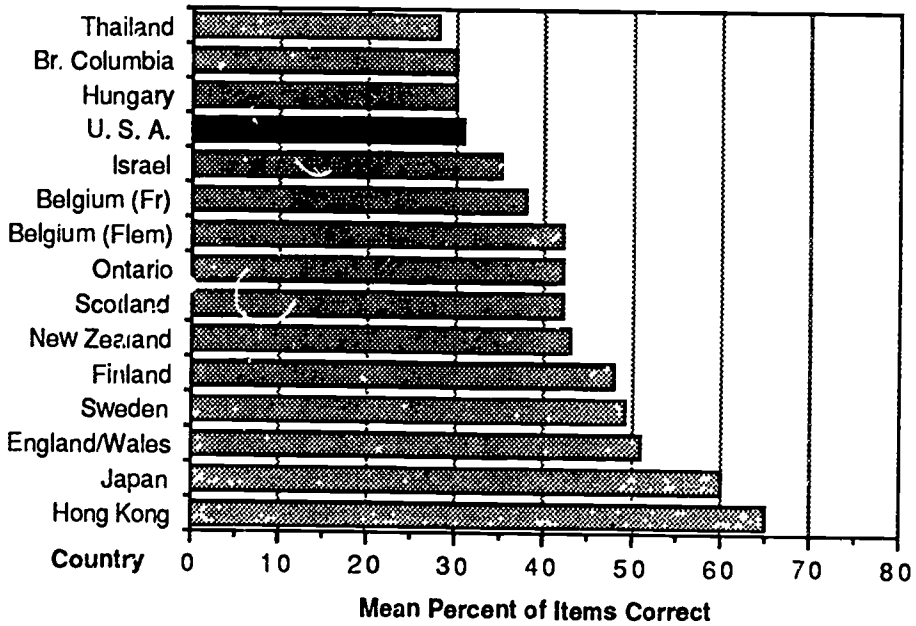
Twelfth Grade Achievement--Algebra

Second International Mathematics Study



Twelfth Grade Achievement--Geometry

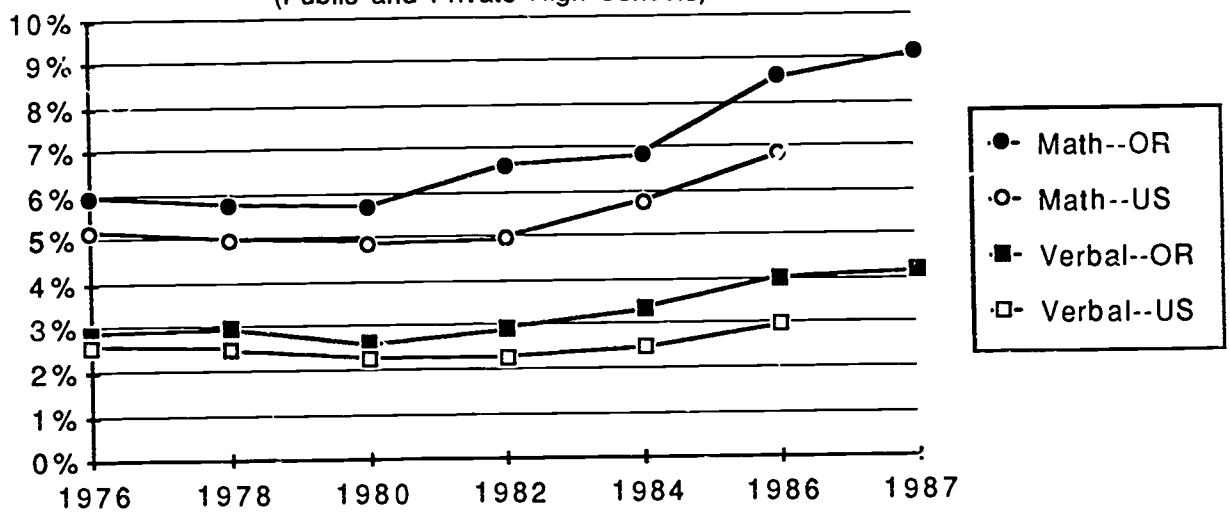
Second International Mathematics Study



How well are we preparing students who graduate from high school?

Percentage of High School Graduates Scoring Above 600 on the SAT

Oregon and United States
(Public and Private High Schools)



There are a variety of ways to examine test score trends. One common way is to plot the average performance on a test over time, to see how the typical test-taker in 1982, for instance, scored relative to the typical test-taker in 1969.

Another way to study trends is to examine the proportion of high-scoring students in the population. This figure may be less susceptible to fluctuations due to the changing pool of test-takers. If it can be assumed that the college chances of highly able students have not changed appreciably in the last 20 years, and that most academically talented high school students take the SAT (in those areas where it is the prevalent college entrance exam), then changes in the proportion of high-scoring students ought not be attributed to the changing pool of SAT examinees; explanations for the trends must lie elsewhere. (Excerpt from *The Condition of Education,* 1986 Edition, Center for Education Statistics, U.S. Department of Education.)

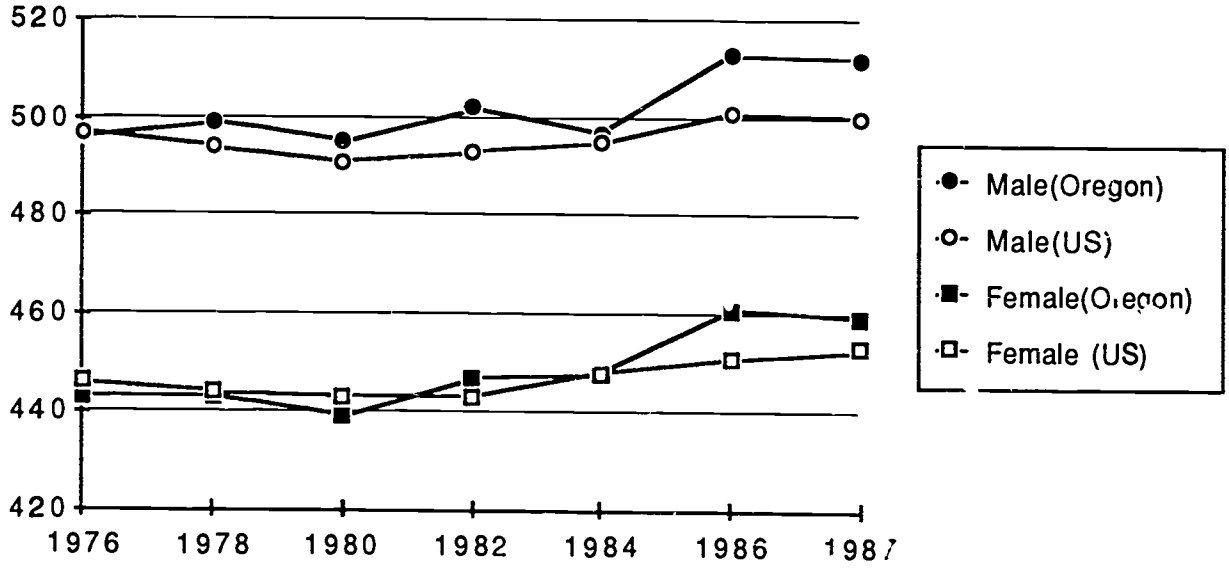
Compared with national results, Oregon consistently has had a higher percentage of high school *graduates* scoring above 600 on the SAT verbal and math components. The percentage difference has been increasing since 1980.

Source: Admissions Testing Program, The College Board, *College-Bound Seniors, National Report,* various years.

How well are we preparing students who graduate from high school?

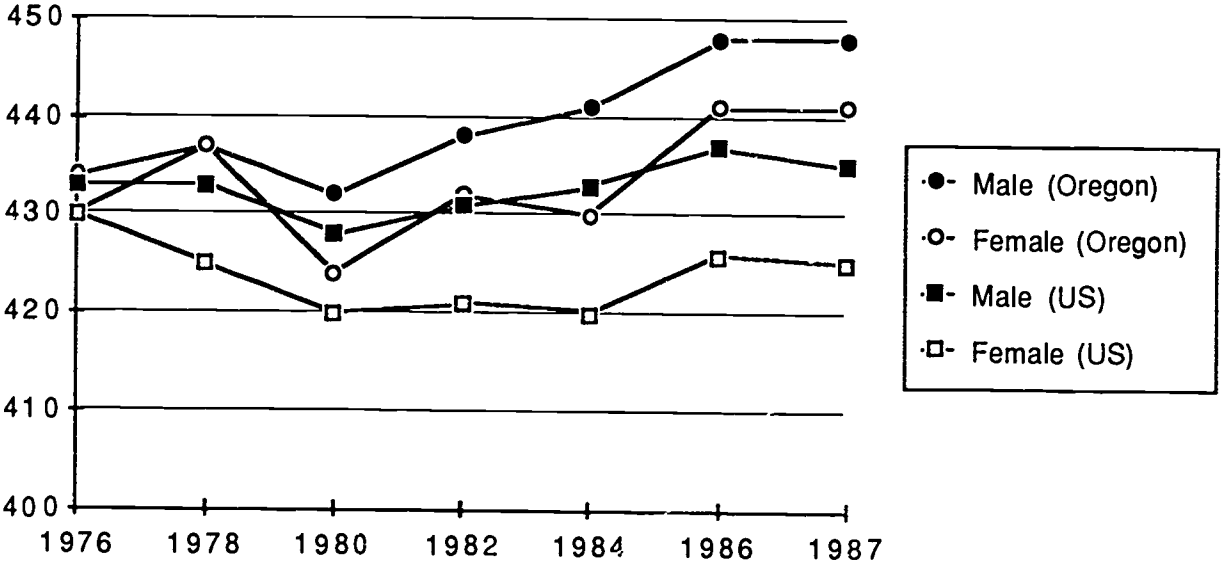
Scholastic Aptitude Test Scores--Math

Oregon and United States, 1976 to 1987



Scholastic Aptitude Test Scores--Verbal

Oregon and United States, 1976 to 1987

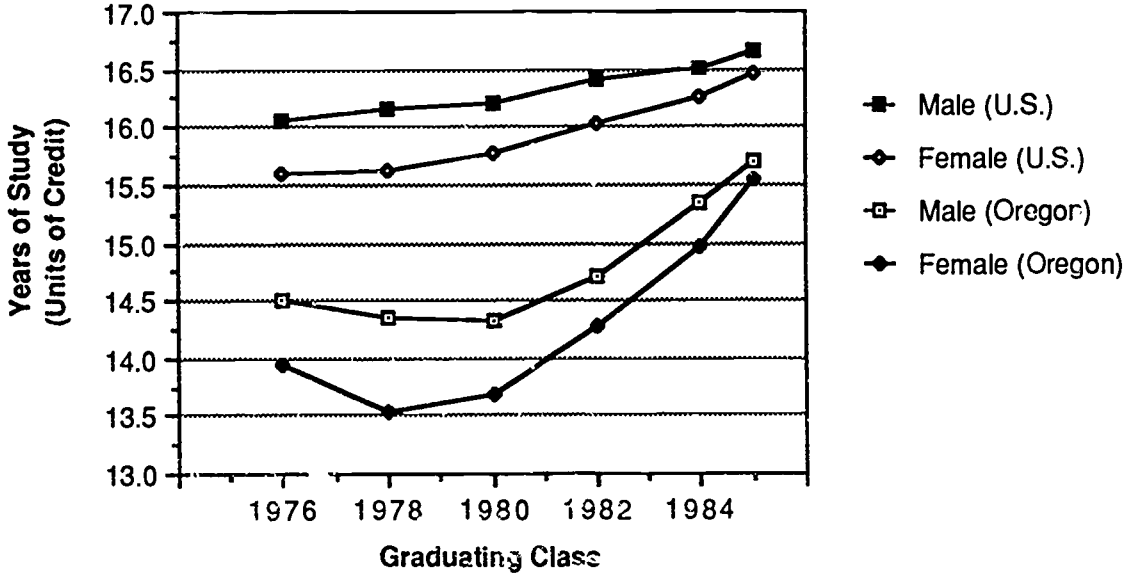


Source: Admissions Testing Program, The College Board.

How well are we preparing students who graduate from high school?

Average Years of Study--Academic Courses

(English, Mathematics, Foreign Language, Biological Sciences, Physical Sciences, and Social Studies)
Seniors Taking the SAT, Oregon and U.S., 1976 to 1985



Since the late 1970s, Oregon seniors taking the SAT have completed an increasing number of courses (overall) in English, mathematics, foreign languages, science, and social studies. The rate of increase has been somewhat greater than for seniors nationwide taking the SAT.

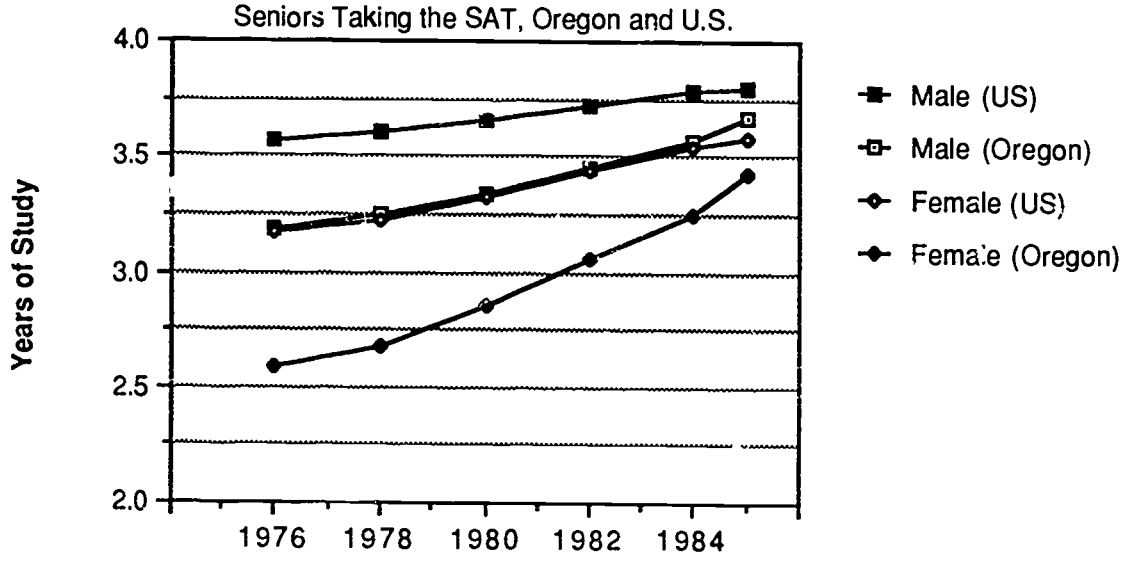
On the average, college-bound students in Oregon need 6.5 credits beyond the areas of study listed above to meet the 22 unit of credit requirement for graduation. Included in these 6.5 units are 3.5 in health, physical education, career development and personal finance/economics, leaving 3 (at minimum) for other areas.

Information on years of study (units of credit) by subject area is given on the following three pages. The most dramatic differences between Oregon and national figures are in the areas of foreign languages, physical sciences, and mathematics, where Oregon students tend to take fewer courses.

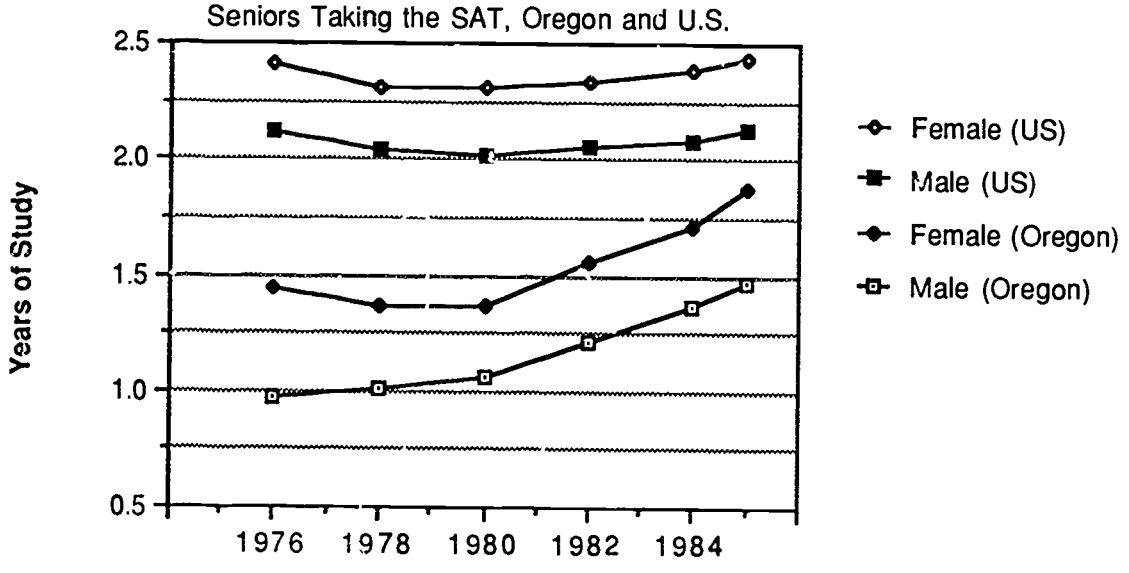
Source: Admissions Testing Program, The College Board.

How well are we preparing students who graduate from high school?

Average Years of Study--Mathematics

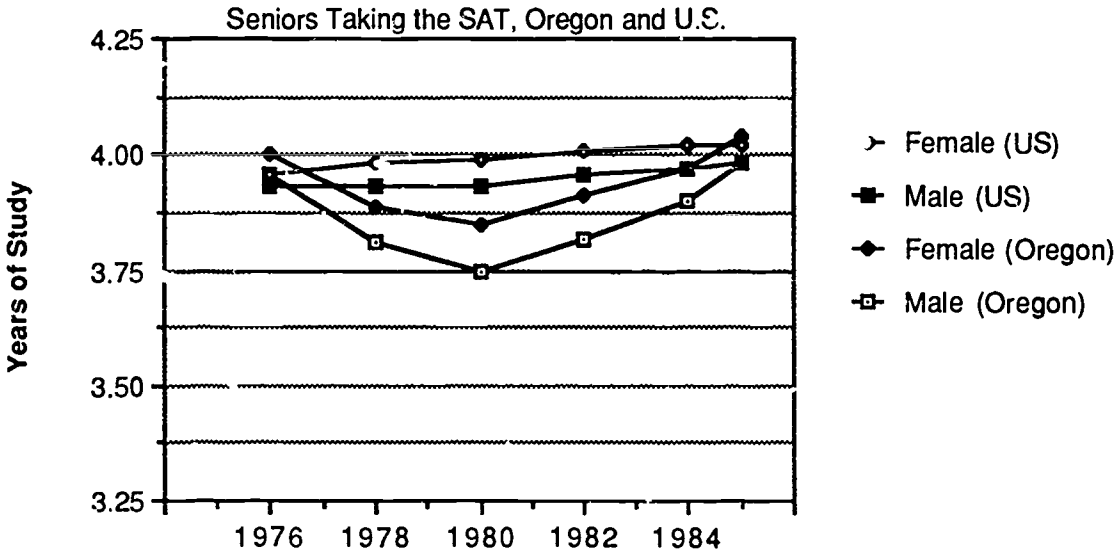


Average Years of Study--Foreign Language

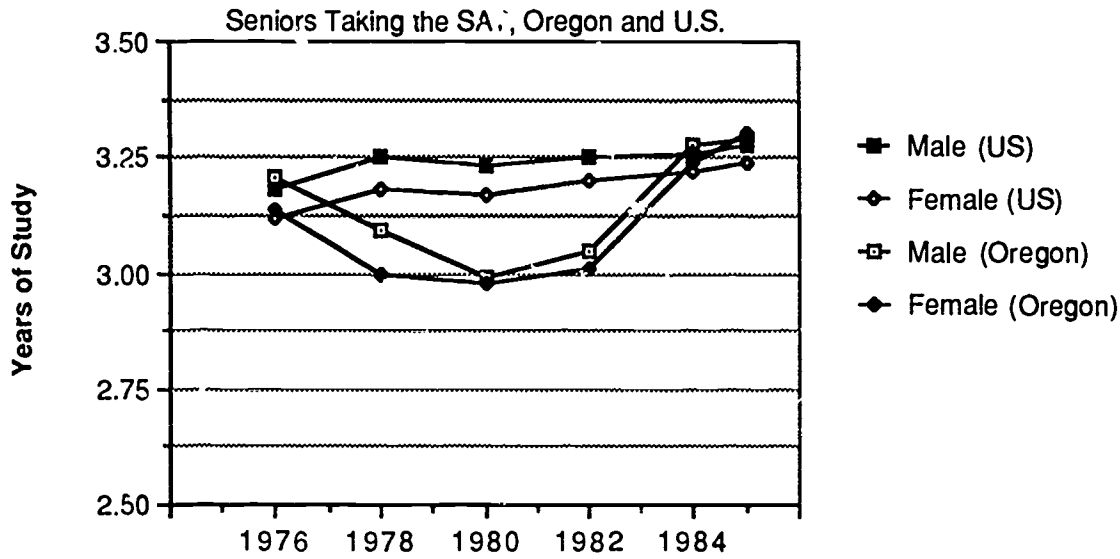


How well are we preparing students who graduate from high school?

Average Years of Study--English

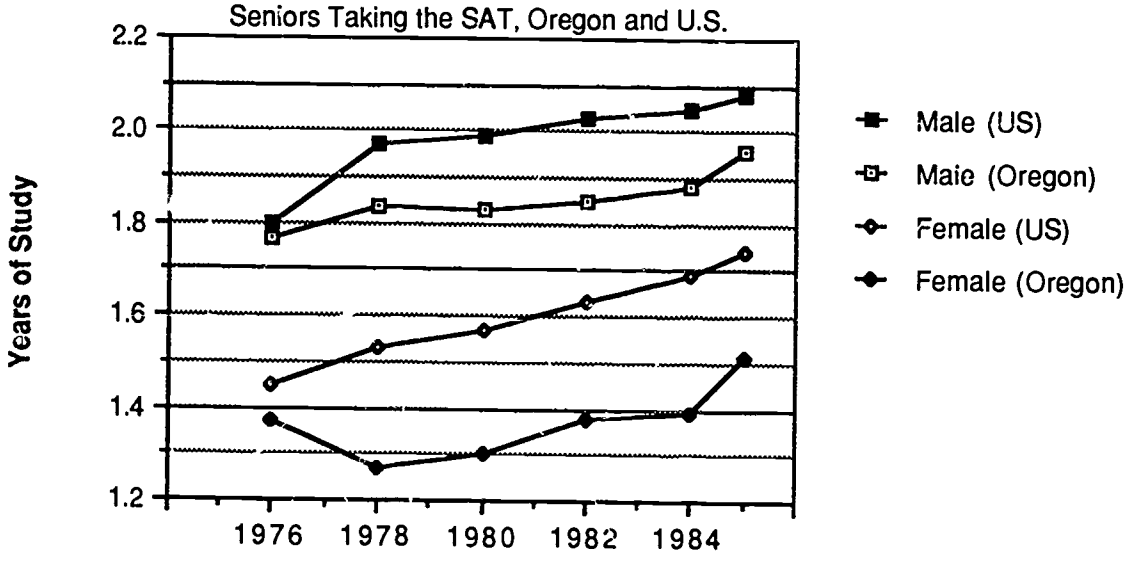


Average Years of Study--Social Studies

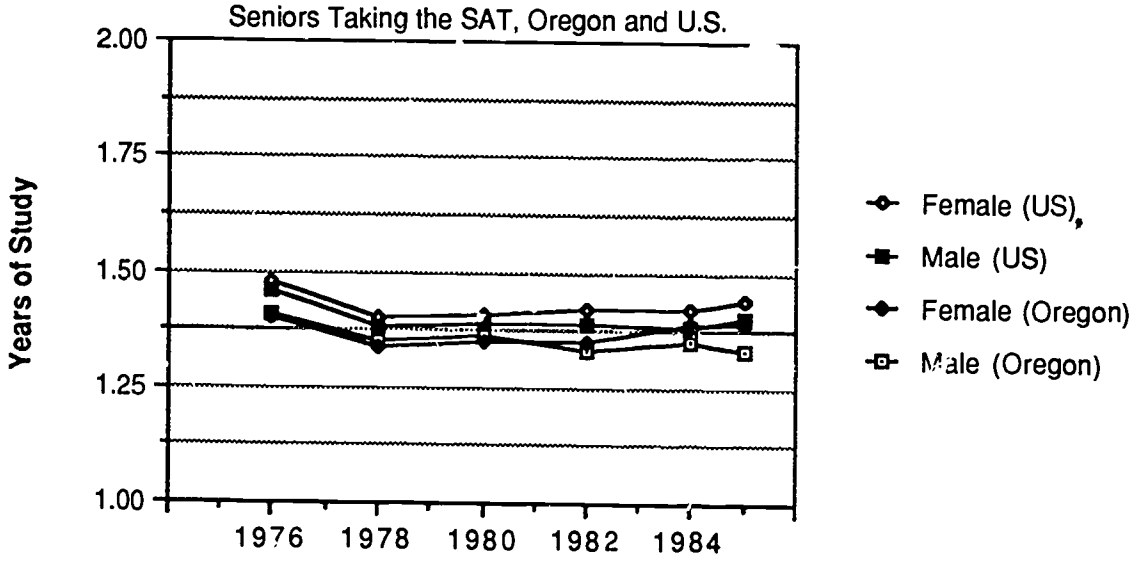


How well are we preparing students who graduate from high school?

Average Years of Studv--Physical Sciences



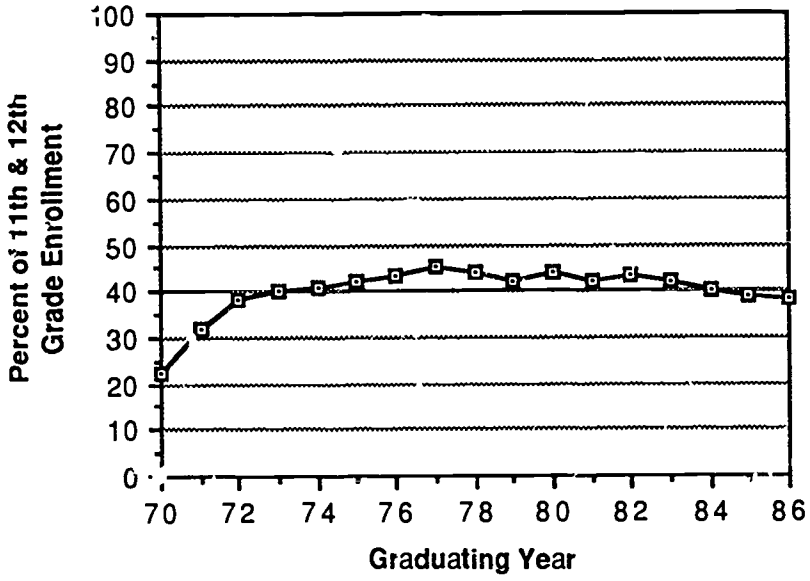
Average Years of Study--Biological Sciences



How well are we preparing students who graduate from high school?

Enrollment in Vocational Education as a Percentage of Total Enrollment, Grades 11 and 12

Oregon Secondary Schools, 1970 to 1986



The percent of 11th and 12th grade students enrolled in vocational education programs has continued to decrease since the 1981-82 school year. The cause for the decrease would appear to be attributable to such variables as increased graduation requirements, increased entrance requirements for Oregon four-year colleges, reduced budget revenues, and other economic considerations.

How well are we preparing students who graduate from high school?

Vocational Education Students in Secondary Schools

Data	1982-83	1983-84	1984-85
All students, grades 9-12	144,855	146,302	148,211
Vocational students, grades 9-12 (unduplicated)	39,173	37,974	38,427
Vocational students, grades 9-10 (unduplicated)	10,608	11,129	12,437
Vocational students, grades 11-12 (unduplicated)	28,565	26,845	25,990
Vocational students, grades 9-12 as a % of all students	27.0%	26.0%	25.9%
Federal vocational funds (used in grades 11-12)	$1,225,559	$1,437,703	$1,533,492
State and local vocational funds	$24,860,212	$26,229,059	$28,327,257
Total federal, state and local vocational funds	$26,085,771	$27,666,762	$29,860,749

Services Provided

The federal vocational funds for 1985 were awarded to school districts with high schools that had state-approved vocational programs. The high schools used the federal funds for programs in agriculture, marketing, health, food service, accounting, clerical, secretarial, mechanics, construction, electricity/electronics, metals, child care, clothing, drafting, graphics, service, forestry, diversified occupations, and miscellaneous special programs. Federal funds were not used for home and institutional management. The programs used the federal vocational funds primarily for supplies and equipment, although minor sums were used for instructor salaries.

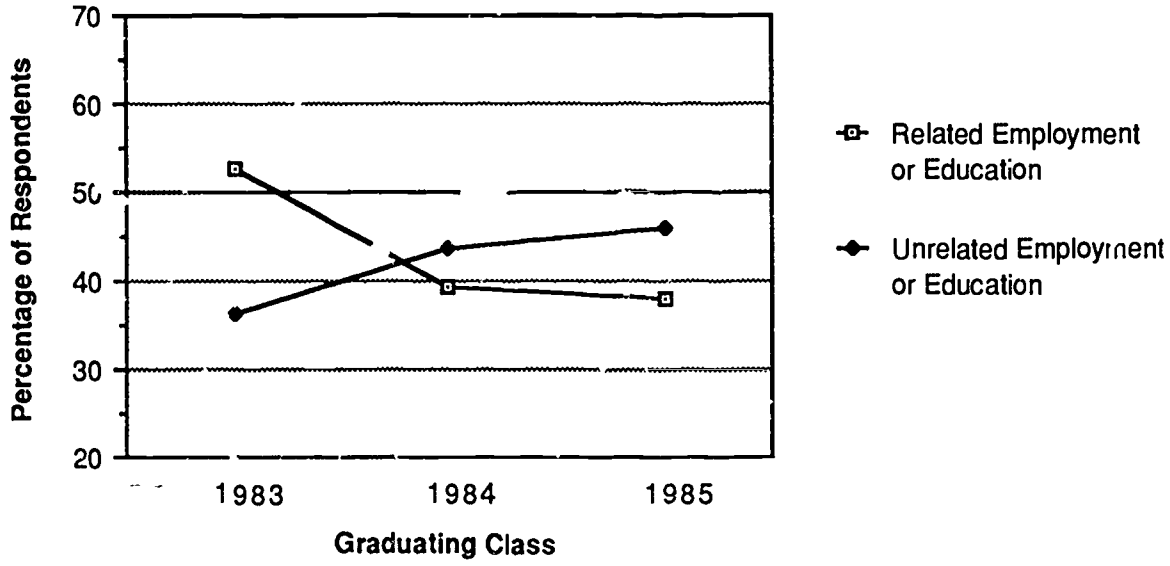
Unmet Needs

Local high schools continue to have major needs for additional supplies and equipment for existing programs. Changing technology will increase the need for these items. Additional funds will be needed for new vocational programs, expanding programs, and programs that are extended from the traditional two year offerings to three or four years. All vocational programs will require other additional funds for developing and/or revising appropriate curriculum, along with funds for such other support services as counseling and guidance and staff inservice activities. Other funds are needed for incentives to attract the best possible people from business and industry to serve as vocational instructors.

How well are we preparing students who graduate from high school?

Percentage of Former Vocational Program Completers Employed or Pursuing Further Education in Areas Related / Unrelated to Their Vocational Preparation

Oregon Secondary School Program Completers, 1983-85



For the past decade, follow-up studies have been conducted to determine the activities and perceptions of persons who had completed high school vocational programs. The former high school students surveyed had completed at least one and one-half years of an approved high school vocational program, according to the SERVE management information system.

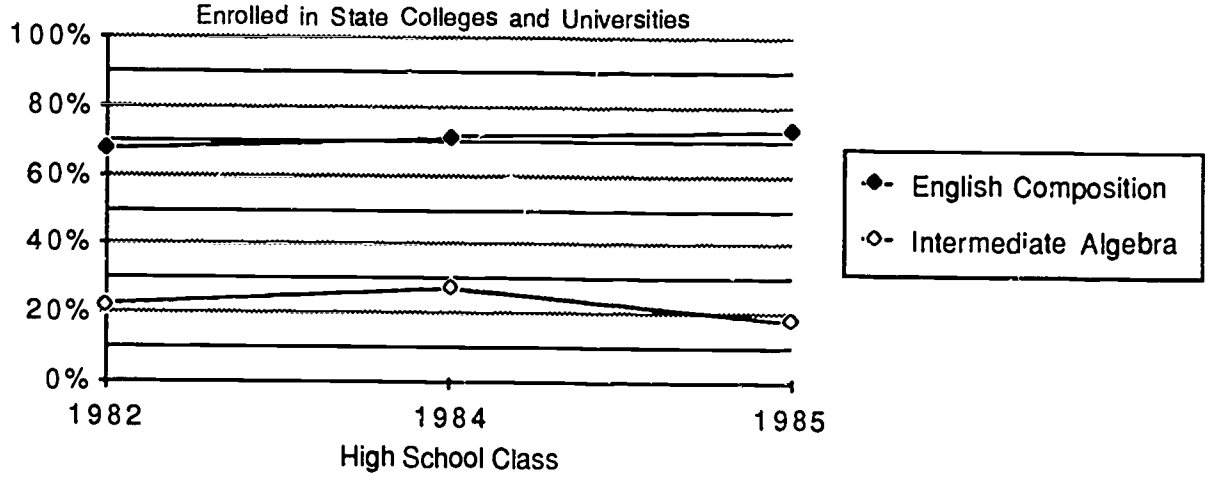
Out of all respondents, 33 percent of the 1985 graduates reported that they were engaged in work or further education in areas related to their vocational preparation. Forty-six percent indicated they were pursuing work or further education in areas unrelated to their vocational program. The remainder (16 percent) were unemployed (or not in the labor force) and not in school.

Source: Follow-Up Study of 1984-85 Students of Oregon High School Vocational Education Programs, Oregon Department of Education. (Also reports for 1983-84 and 1982-83 students.)

How well are we preparing students who graduate from high school?

Percentage of College Freshmen Enrolling in English Composition or Intermediate Algebra

Oregon High School Graduates
Enrolled in State Colleges and Universities



The Oregon State System of Higher Education reports annually on the performance of freshmen in state colleges and universities. Approximately 70 percent of each year's college freshmen are from the immediately preceeding Oregon high school graduating class.

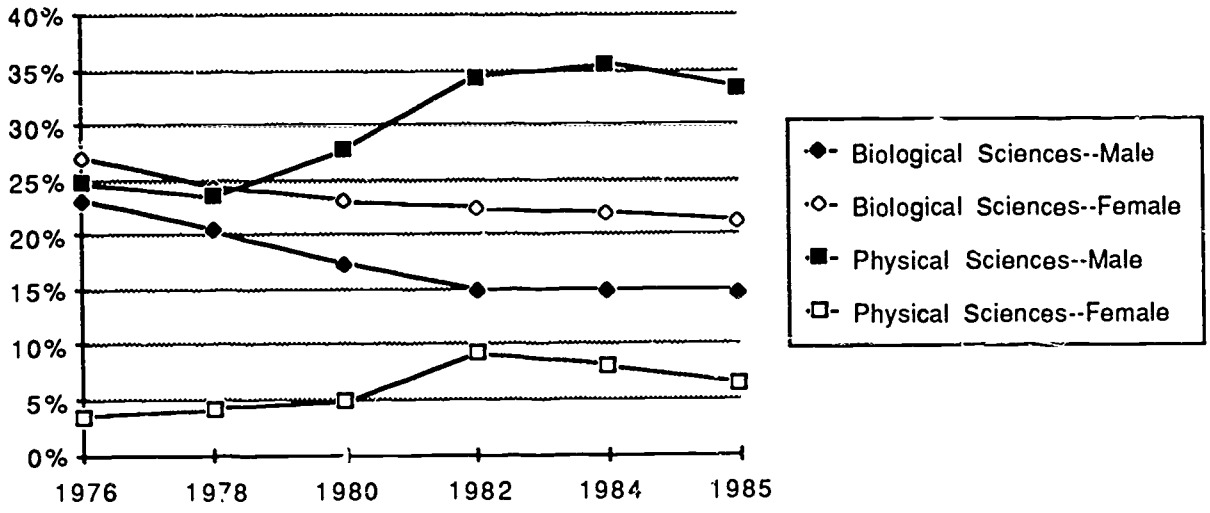
The above figures give the percentage of such freshmen who enrolled in Intermediate Algebra (a high school-level math course) and English Composition (a college-level writing course). Placement tests are used by state colleges and universities to guide students into appropriate courses in math and English. Thus, the decrease in the percentage enrolled in Intermediate Algebra and growth in English Composition enrollment indicates that freshmen from Oregon high schools are increasingly better prepared for college studies.

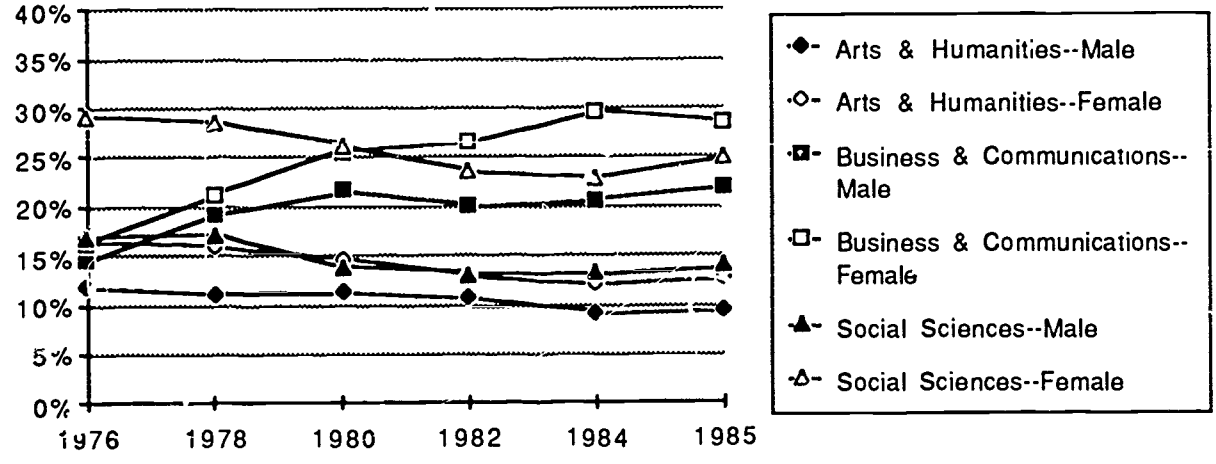
Source: *Academic Performance Report, New Freshmen Class of 1985-86, Oregon HS Class of '85 Only,* Office of School Relations, Oregon State System of Higher Education. Also: Reports for Freshman classes of 1982-83 and 1984-85.

How well are we preparing students who graduate from high school?

Intended Areas of Study of SAT Examinees

Oregon, 1976 to 1985





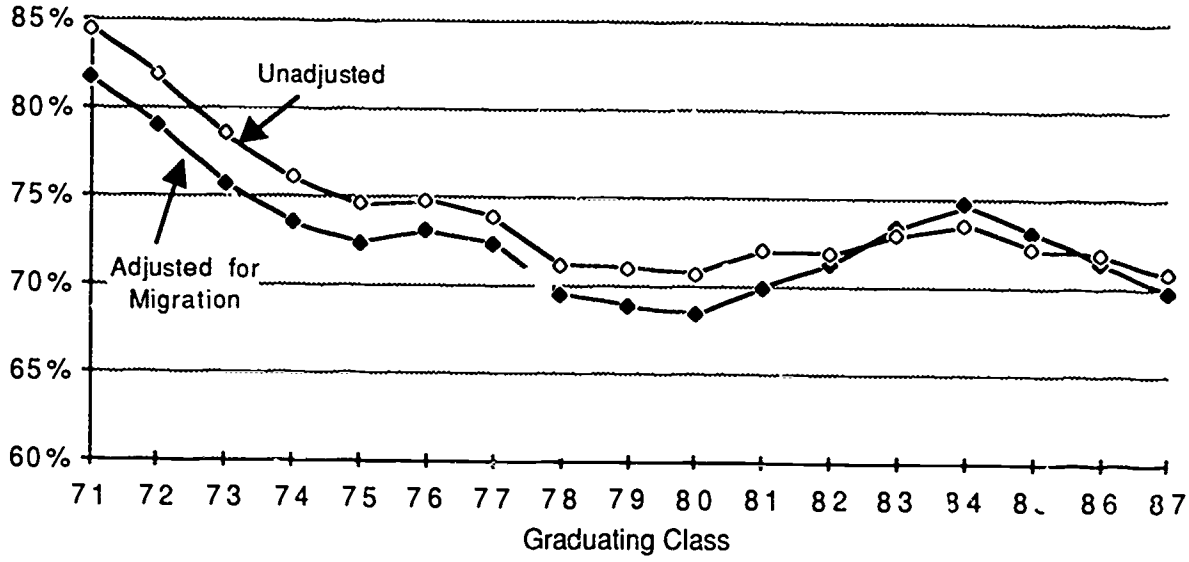
Over the last ten years an increasing number of students entering college have been projecting their areas of study in business and communications and the physical sciences. The most dramatic increase for females has been in business; for males, in physical sciences.

During that same period, there has been a declining interest in the biological and social sciences, and arts and humanities.

How many students don't receive a high school diploma?

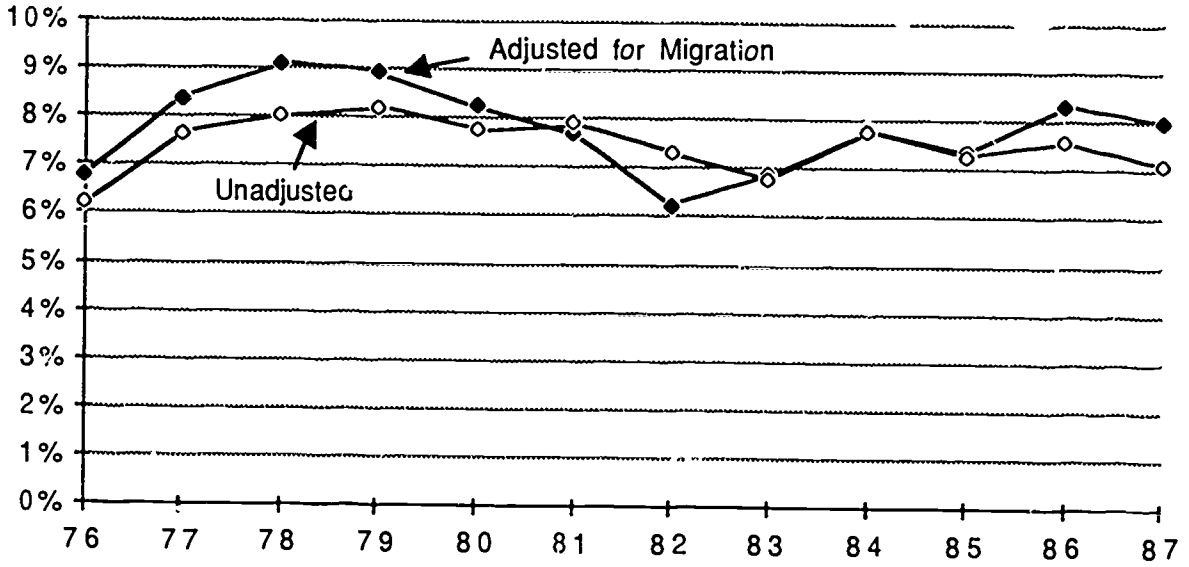
High School Graduation Rate

Oregon, 1971 to 1987



Annual Attrition Rate

Oregon, 1976 to 1987



Source: Oregon Department of Education, *Oregon Public and Private High School Graduates, Summary of Student Personnel (1968 to 1986).* See following page for description of adjustment for migration.

How many students don't receive a high school diploma?

The chart on the previous page shows the percentage of students who receive a high school diploma in Oregon, compared to the size of the original freshman class. The high school graduation rate (unadjusted) is defined as the number of public school graduates receiving a regular diploma as a percentage of the October 1 ninth grade membership for a given graduating class. For example, the 27,165 graduates in 1987 is 70.8 percent of the 38,388 ninth graders on October 1983.

Adjustment for migration takes into account the movement of students into and out of the state. For a given school year, the enrollment in grades 3 through 9 is compared with the enrollment in grades 2 through 8 for the previous school year. The percentage increase (or decrease) is used to project changes in membership at the high school grades for the corresponding year. When the state gains population the number of potential high school graduates grows as well. In the example above, this adjustment resulted in a graduation rate of 69.8 percent (27,165 divided by 38,889).

The annual attrition rate shows the percentage of students who leave high school in a given year before receiving a high school diploma. This rate peaked in the 1977-78 school year at 9.1 percent (adjusted for migration). Since the 1981-82 school year, the annual attrition rate has increased, with a slight drop in 1986-87.

The high school graduation rate has been declining since 1985, after a four-year increase. Over the last ten years, Oregon's graduation rate has averaged 71.3 percent. In comparison, the U.S. average was 71.5 percent in 1986 and 69.5 percent in 1982.

A total of 1,087 students received an alternate document (e.g., certificate of completion) rather than a regular diploma in 1987. Adding them to the number receiving a regular diploma results in graduation rates of 73.6 percent (unadjusted) and 72.6 percent (adjusted for migration).

The percentage of students in a given graduating class who earn a GED certificate before age 19 may be added to the graduation rate, yielding the percentage who complete a high school education "on time." The percentages of GED recipients under 19 years old, by graduating class, are as follows:

Class	GED Rate
1982	5.77%
1983	5.23
1984	4.75
1985	5.84

Data from the decennial census for Oregon shows that the percentage of 18 to 24-year olds who had graduated from high school was 72.6 percent in 1970 and 76.8 percent in 1980.

Source: Oregon Department of Education, *Oregon Public and Private High School Graduates, Summary of Student Personnel (1968 to 1986);* GED Program records.

PART III: SCHOOL CHARACTERISTICS AND RESOURCES

Teacher Characteristics

Who is entering the teaching profession?

- SAT scores of intended education majors
- Percent passing C-BEST on first try
- Percent of student teachers employed in Oregon schools one year following graduation, by field of study
- Percent of student teachers certified/employed in Oregon schools

Educational Resources

Will school districts have difficulties implementing kindergarten programs by 1989?

- Oregon kindergarten statistics

Are educational resources equitably distributed?

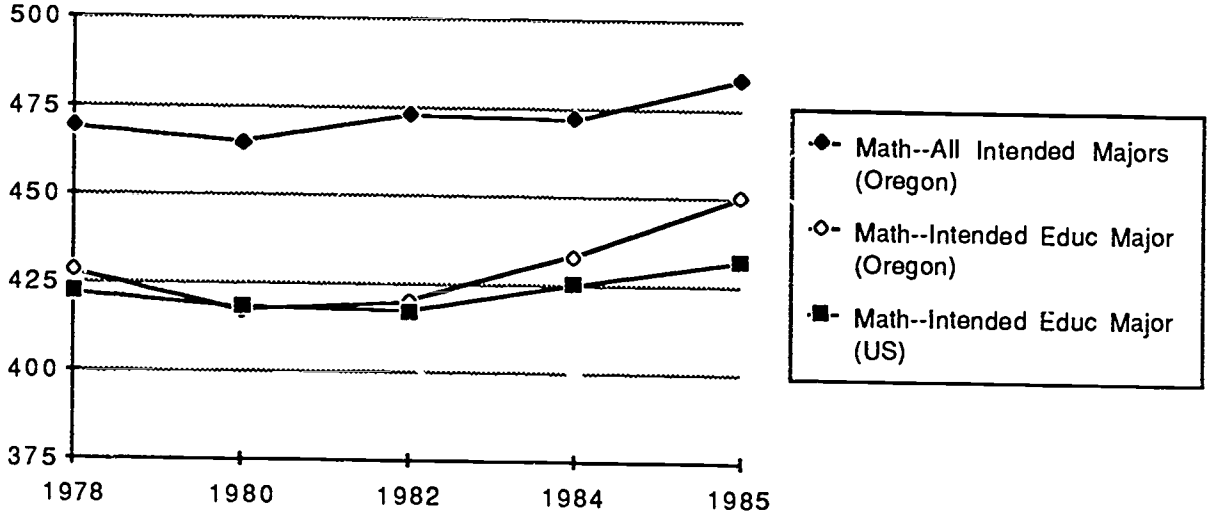
- Percentile distribution of estimated current expenditures per resident student
- Correlation between expenditures per student and assessed value per student
- Correlation between property tax rate and assessed value per student

How are schools and districts staffed?

- Elementary pupil/teacher ratio by size of school
- High school pupil/teacher ratio by size of school
- Percentile distribution of teachers per school district
- Percentile distribution of administrators per school district

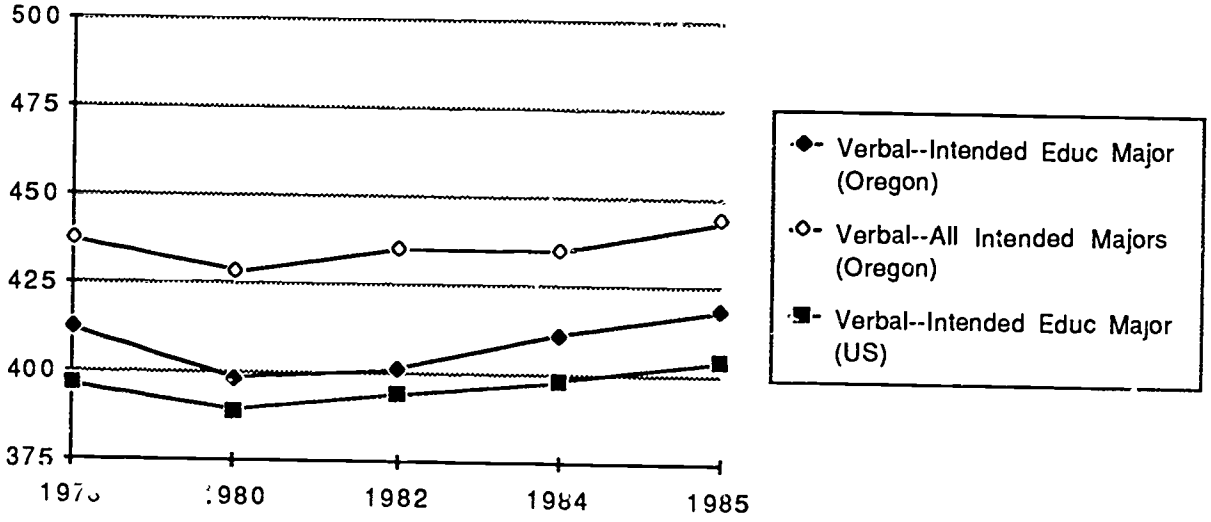
Average SAT Math Scores of Intended Education Majors

Oregon and United States, 1978 to 1985



Average SAT Verbal Scores of Intended Education Majors

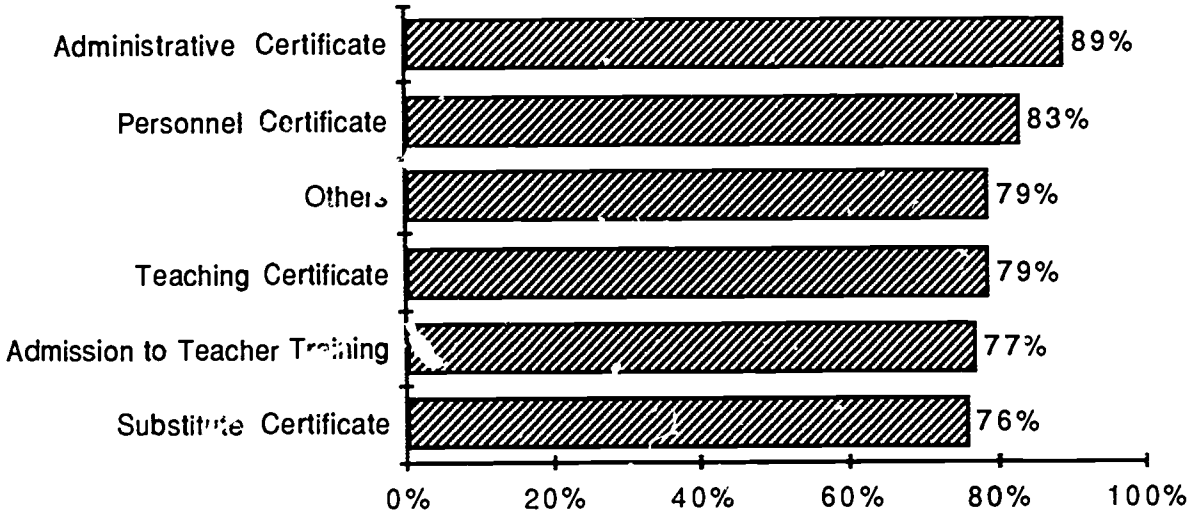
Oregon and United States, 1978 to 1985



Who is entering and leaving the teaching profession?

Percent of Candidates for Certification Passing C-BEST on First Try

Oregon, 1985-86



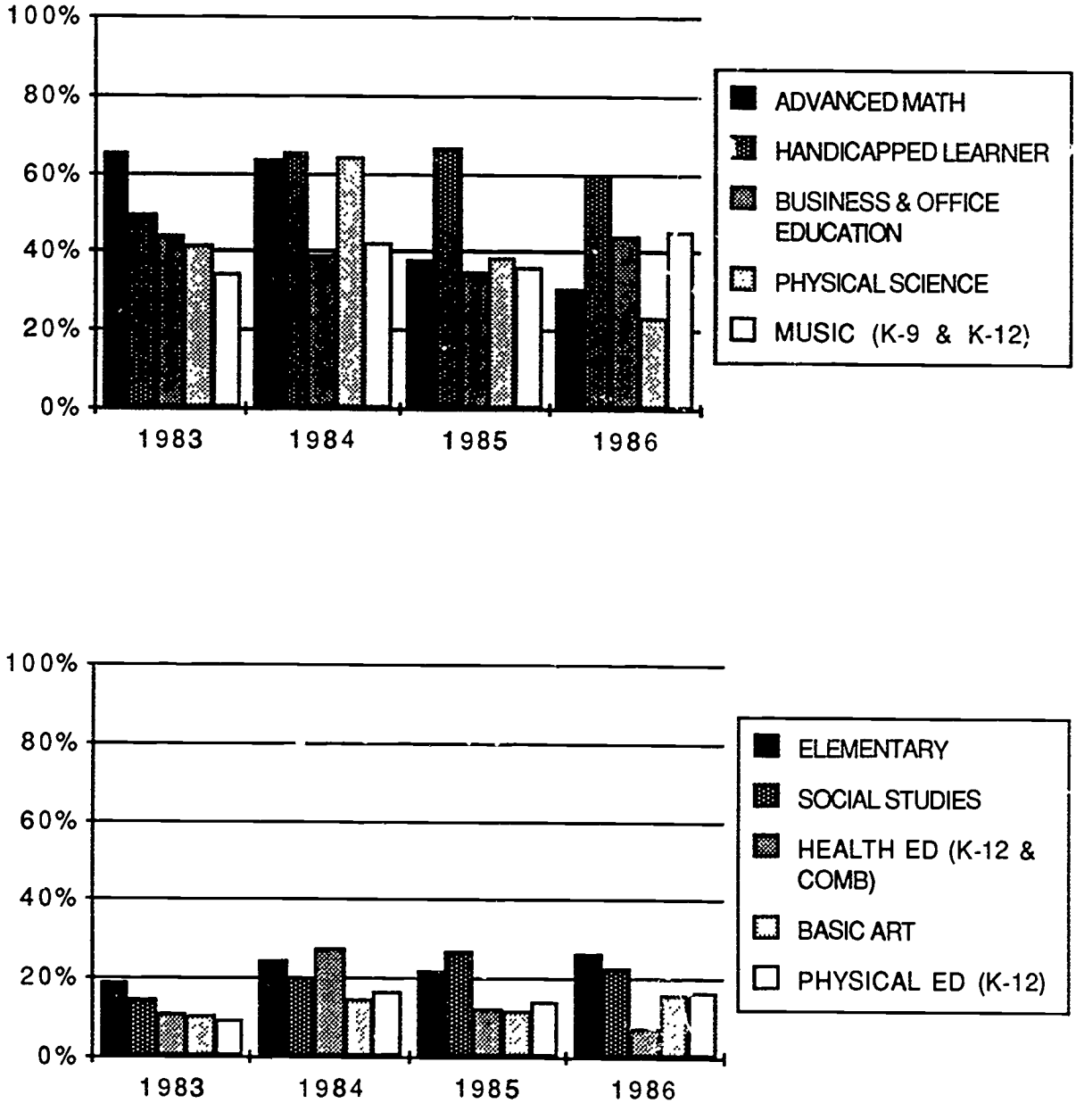
Overall Percent Passing

1985	81%
1986	79%

Source: Educational Testing Service report to Teacher Standards and Practices Commission.

Who is entering and leaving the teaching profession?

Percent of Student Teachers Employed in Oregon Schools One Year Following Graduation



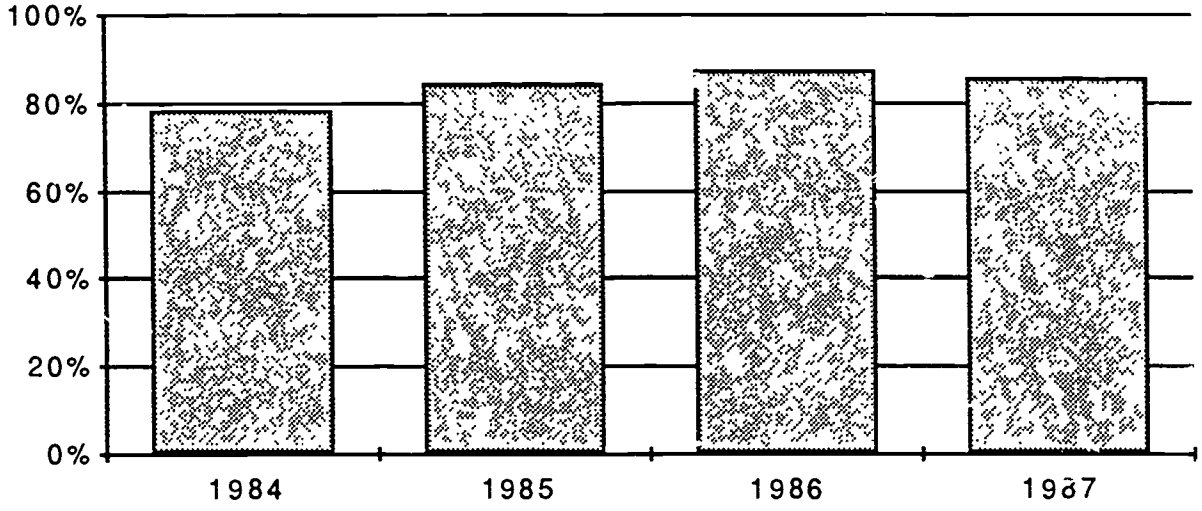
With the exception of those in certain fields, Oregon student teachers have had a relatively difficult time finding job placements in Oregon public schools. In the above figures, data are shown for the top five and bottom five fields (as of September 1983).

Source: *1982-86 Student Teachers Placed by September 30, 1986.* Teacher Standards and Practices Commission, May 1987.

Who is entering the teaching profession?

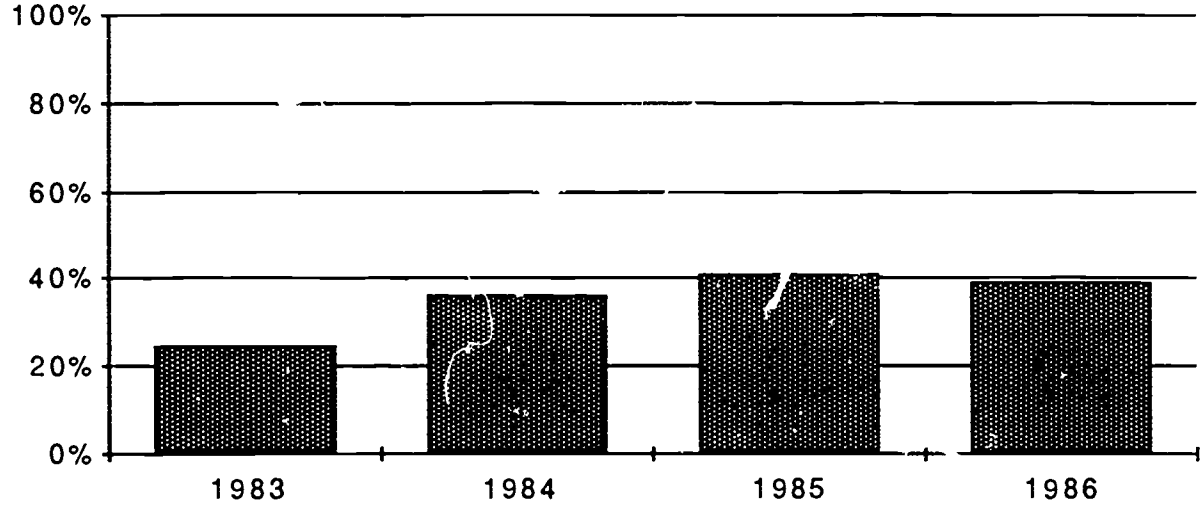
Percent of 1982-83 Student Teachers With Oregon Certification

(January of Given Year)



Percent of 1982-83 Student Teachers Employed in Oregon Public Schools

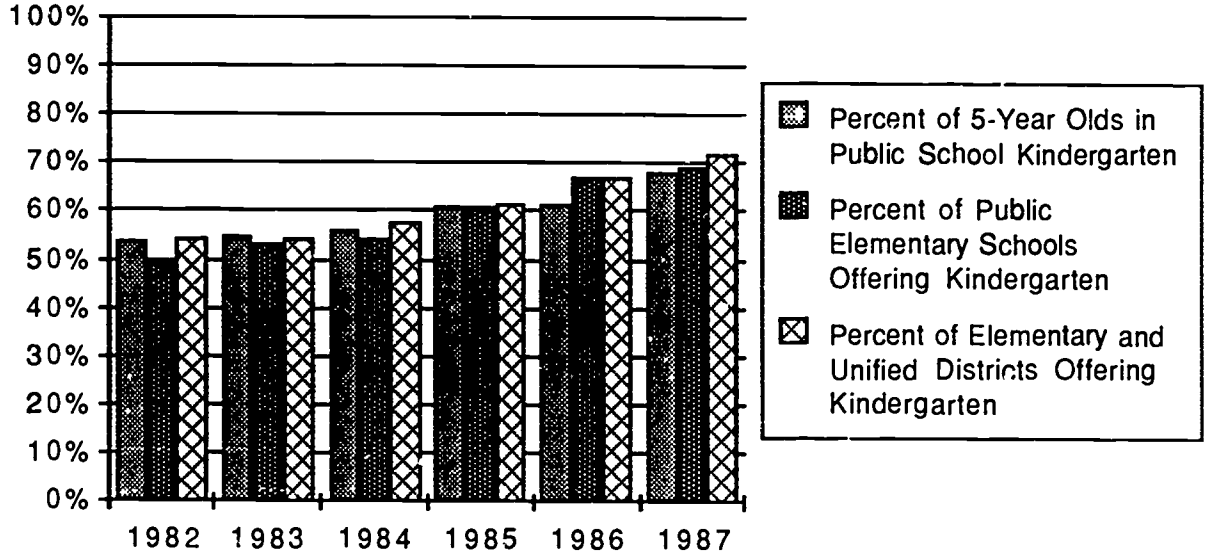
(Septemoer of Given Year)



Source: *1982-86 Student Teachers Placed by September 30, 1986.* Teacher Standards and Practices Commission, May 1987.

Will school districts have difficulties implementing kindergarten programs by 1989?

Oregon Kindergarten Statistics



Seventy-eight districts offering elementary education have yet to implement kindergarten programs. Current district timelines call for 22 to do so in the 1987-88 school year, four in the 1988-89 school year, and 52 in the 1989-90 school year.

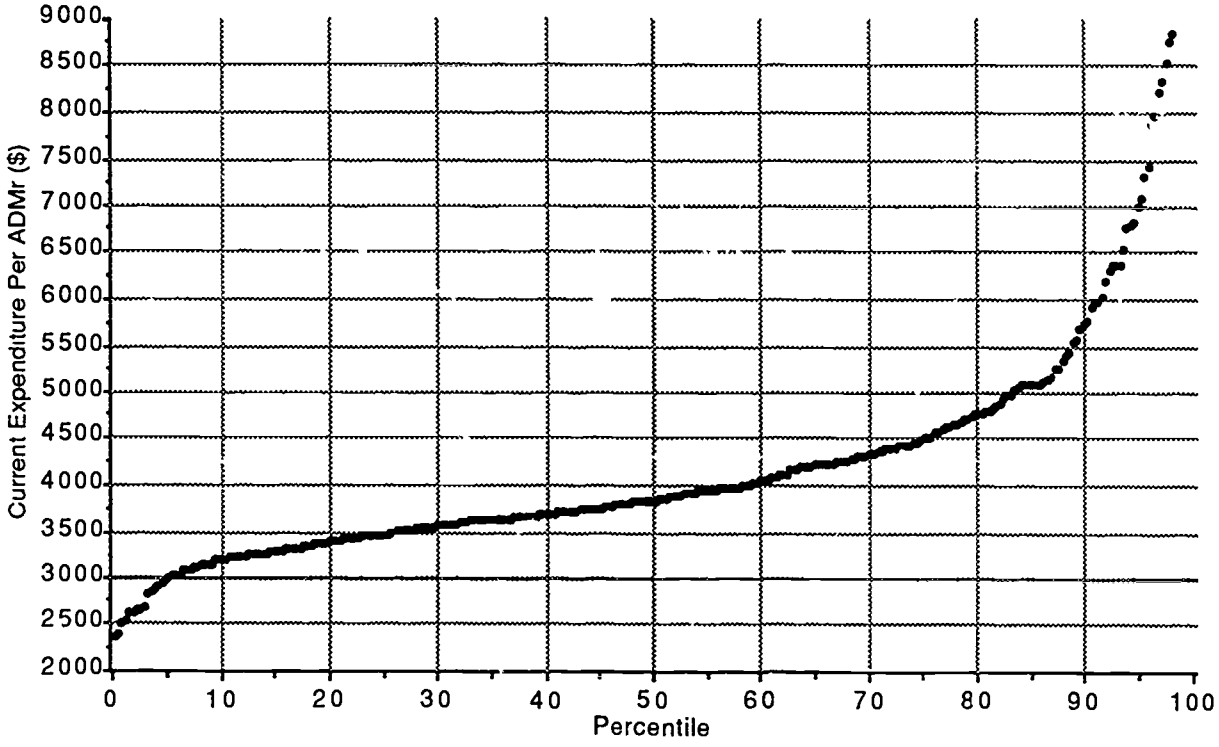
Of the 52 that plan implementation for 1989-90, 24 (46 percent) are operating within their current tax base, and 28 (54 percent) require levies outside their tax base.

Sources: *Oregon Kindergarten Statistics 1986-87,* School Finance and Data Information Services, Office of School District Services, Oregon Department of Education, December 1986. *Timelines for Implementing Kindergarten,* Division of General Education, Oregon Department of Education, March 1987.

Are educational resources equitably distributed?

Percentile Distribution of Estimated Current Expenditures Per Resident Student

Oregon School Districts, 1986-87



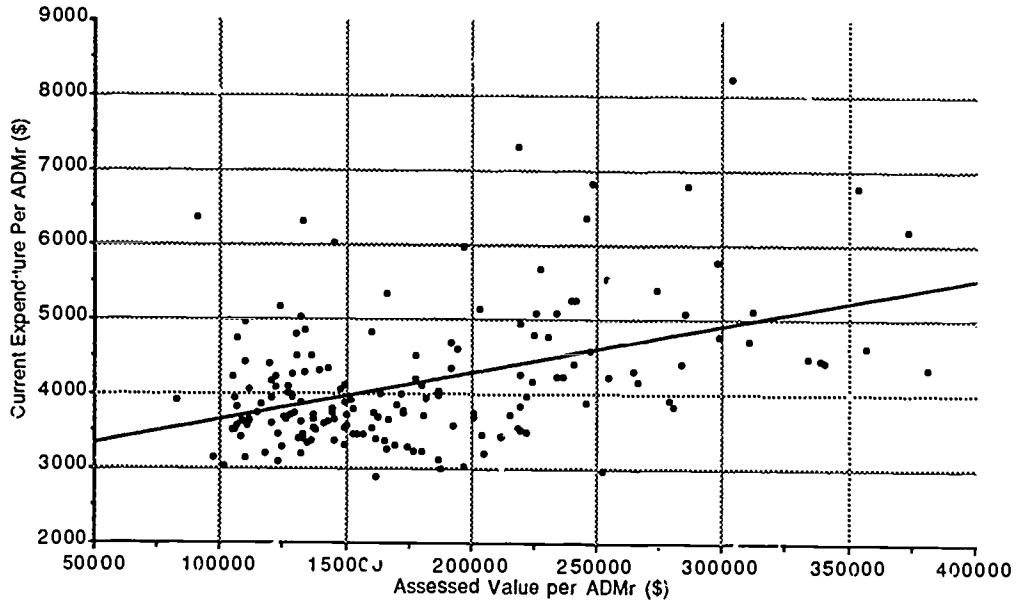
The figure above displays the distribution of estimated current expenditures per resident student for all Oregon school districts. (Each point in the scatterplot represents one district.) The median value (50th percentile) was $3,834 per pupil. The lower ten percent of districts spent $3,203 or less per student, and the top ten percent spent above $5,737 per student.

Source: School Finance and Data Information Services, Oregon Department of Education, *Estimated 1986-87 Per Student Current Expenditures* (n.d.).

Are educational resources equitably distributed?

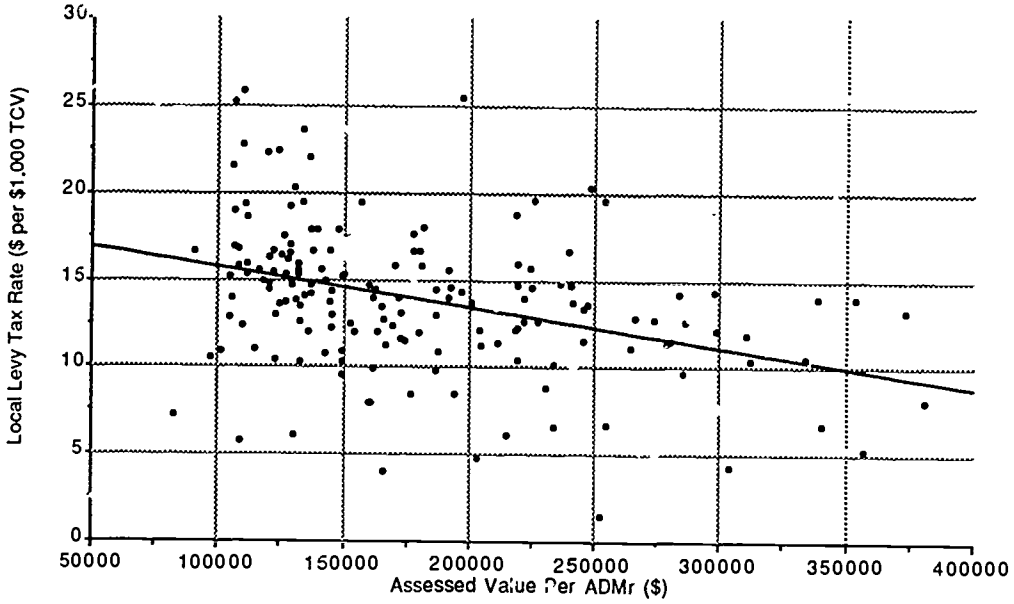
Correlation Between Expenditures Per Student and Assessed Value Per Student

Unified School Districts, 1986-87



Correlation Between Property Tax Rate and Assessed Value Per Student

Unified School Districts, 1986-87



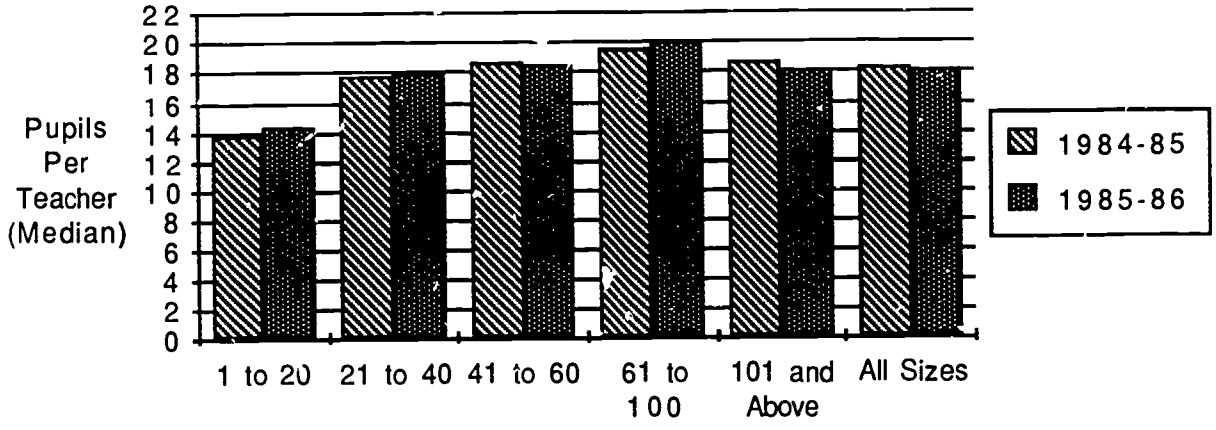
Oregon school districts vary in their assessed value per resident student, which in turn, influences the level of resources available from property tax levies and the local levy tax rate. For unified districts, the correlation between current expenditures per pupil and assessed value per pupil is 0.446. The correlation between tax rate and assessed value per pupil is -0.361.

Source: School Finance and Data Information Services, Oregon Department of Education, *1986-87 Summary of Valuations and Taxes Levied* (March 1987), and *Estimated 1986-87 Per Student Current Expenditures* (n.d.).

How are schools and districts staffed?

Elementary Pupil/Teacher Ratio by Size of School

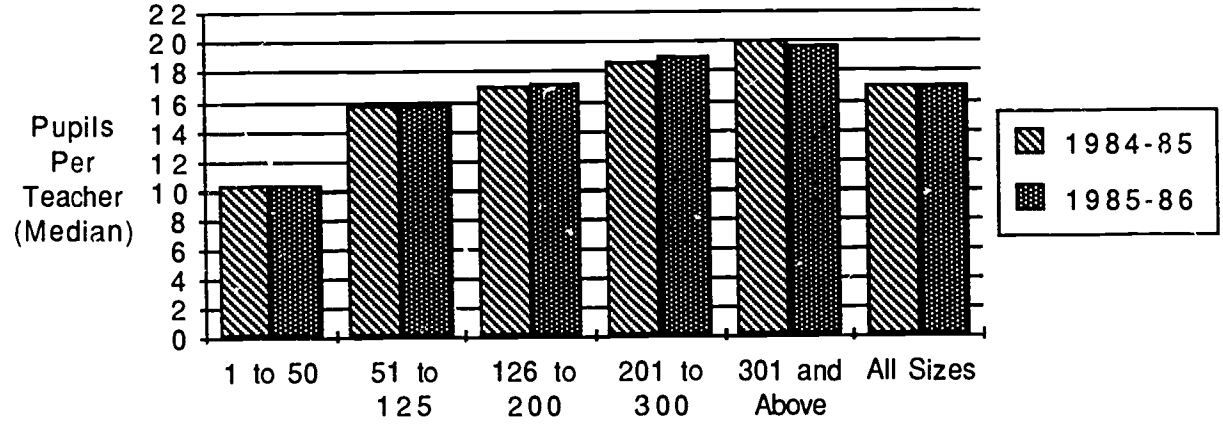
Oregon, 1984-85 and 1985-86



Average Number of Students Per Grade

High School Pupil/Teacher Ratio by Size of School

Oregon, 1984-85 and 1985-86

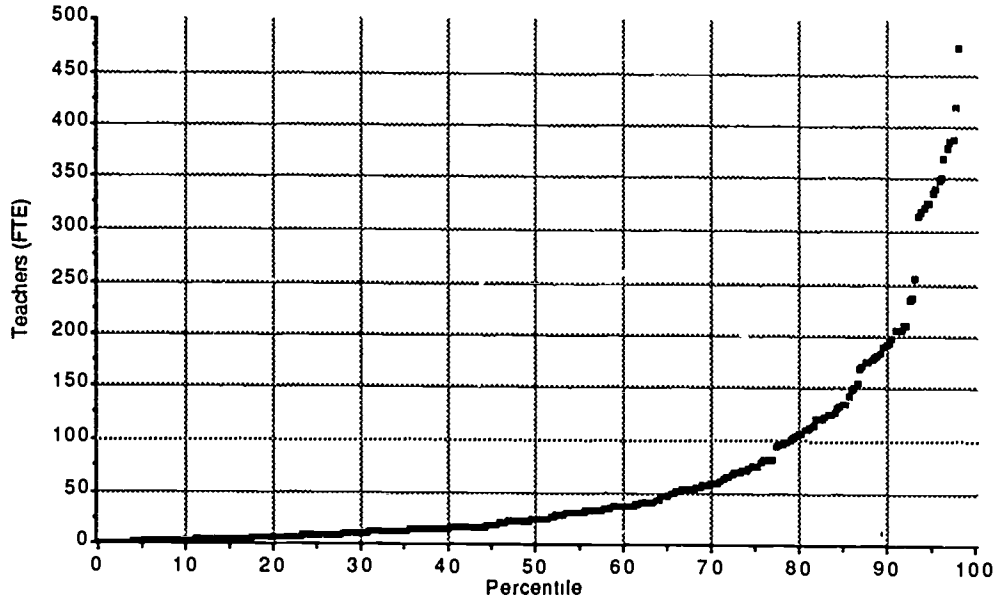


Average Number of Students Per Grade

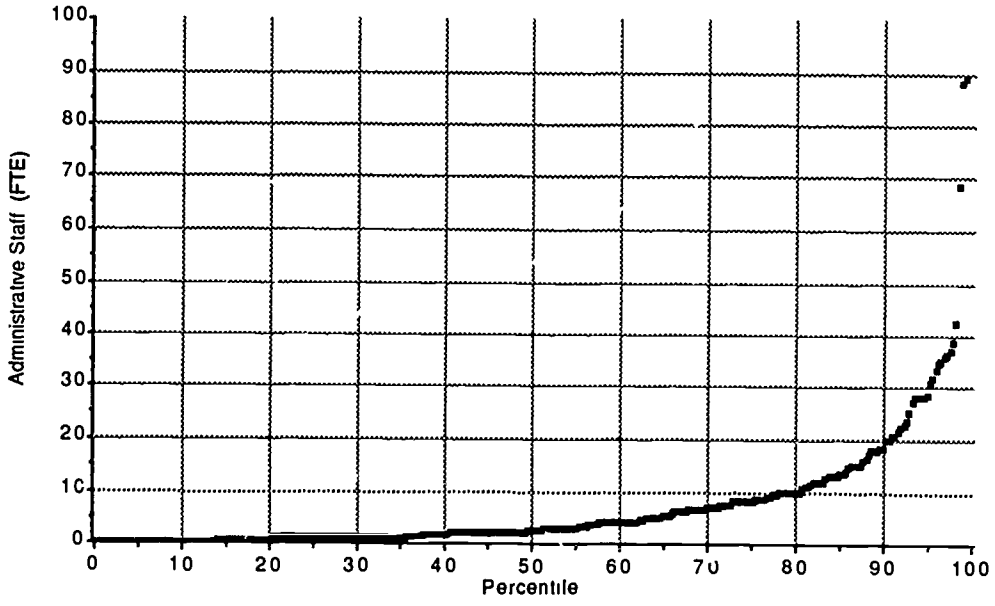
Pupil/teacher ratios in Oregon vary as a function of school size--the smaller the school, the smaller the ratio (with the exception of larger elementary schools).

Source: School Level Fall Report tabulations (October 1, 1984 and 1985). Oregon Department of Education.

Percentile Distribution of Teachers Per School District



Percentile Distribution of Administrators Per School District



The two figures above illustrate dramatic differences in the size of teaching and administrative staffs among Oregon school districts. The teaching staff ranges from 1 to 2790 (FTE), half of the districts having 24 FTE teachers or less. Administrative staff ranges from 0 to 240 FTE, half having 2.5 FTE administrators or fewer.

Source: District Fall Report, 1986 (Teachers) and 1984 (Administrators)