

DOCUMENT RESUME

ED 433 612

EA 030 028

AUTHOR Good, Dixie Griffin  
 TITLE Future Trends Affecting Education.  
 INSTITUTION Education Commission of the States, Denver, CO.  
 PUB DATE 1999-01-00  
 NOTE 36p.  
 AVAILABLE FROM ECS Distribution Center, 707 17th Street, Suite 2700,  
 Denver, CO 80202-3427 (Stock No. SI-99-1; \$6.50 prepaid,  
 plus postage and handling). Tel: 303-299-3692; Web site:  
 <<http://www.ecs.org>>.  
 PUB TYPE Reports - Descriptive (141)  
 EDRS PRICE MF01/PC02 Plus Postage.  
 DESCRIPTORS \*Educational Administration; Educational Change;  
 \*Educational Trends; Elementary Secondary Education;  
 \*Governance; School Administration; School Policy; \*Trend  
 Analysis

ABSTRACT

This paper examines various trends and explores how they may affect education. Six specific trends are explored: (1) education trends, in which competition among schools for students, educators, and funds is increasing, calls for education accountability are increasing at all levels, and the demand for education professionals is rising; (2) demographic trends, in which minority students are beginning to form the student majority, school segregation is increasing, disproportionate numbers of children and women are filling the ranks of the poor, and the number of senior citizens is growing; (3) technological trends, in which investments in technology infrastructure and equipment for schools are expanding, transforming what happens in the classroom; (4) economic trends, in which wealth is becoming concentrated in a shrinking elite and the demand for technically skilled workers is high; (5) political trends, in which the call for public accountability is increasing, term limits on governors and state legislators are growing more common, unions are seeking new ways to be effective, the federal government is continuing to devolve power, and distrust of the federal government is rising; and (6) social trends, in which consumer behavior is becoming driven by the desire to self-differentiate and more Americans are espousing the principles of simplicity and community. (RJM)

\*\*\*\*\*  
 \* Reproductions supplied by EDRS are the best that can be made \*  
 \* from the original document. \*  
 \*\*\*\*\*

# FUTURE TRENDS AFFECTING EDUCATION

U.S. DEPARTMENT OF EDUCATION  
Office of Educational Research and Improvement  
EDUCATIONAL RESOURCES INFORMATION  
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
- Minor changes have been made to improve reproduction quality.

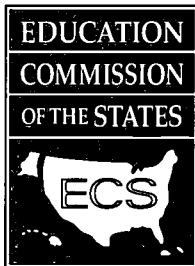
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND  
DISSEMINATE THIS MATERIAL HAS  
BEEN GRANTED BY

S.F. Walker

TO THE EDUCATIONAL RESOURCES  
INFORMATION CENTER (ERIC)

1

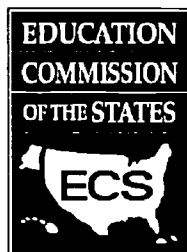


BEST COPY AVAILABLE

2

EA 030 028

# **FUTURE TRENDS AFFECTING EDUCATION**



Education Commission of the States  
707 17th Street, Suite 2700  
Denver, CO 80202-3427  
303-299-3600  
FAX: 303-296-8332  
e-mail: [ecs@ecs.org](mailto:ecs@ecs.org)  
[www.ecs.org](http://www.ecs.org)

January 1999

Copies of this book are available for \$6.50 plus postage and handling from the ECS Distribution Center, 707 17th Street, Suite 2700, Denver, Colorado 80202-3427, 303-299-3692. Ask for No. SI-99-1. ECS accepts prepaid orders, MasterCard, American Express and Visa. All sales are final.

ECS is pleased to have other organizations or individuals share its materials with their constituents. To request permission to excerpt part of this publication either in print or electronically, please write or fax Josie Canales, Education Commission of the States, 707 17th St., Suite 2700, Denver, CO 80202-3427; fax: 303-296-8332.

© Copyright 1999 by the Education Commission of the States (ECS). All rights reserved.

The Education Commission of the States is a nonprofit, nationwide interstate compact formed in 1965 to help governors, state legislators, state education officials and others develop policies to improve the quality of education. The ECS office is located in Denver, Colorado.

It is ECS policy to take affirmative action to prevent discrimination in its policies, programs and employment practices.

\* \* \*

Please add postage and handling if your order totals: Up to \$10.00, **\$3.00**; \$10.01-\$25.00, **\$4.25**; \$25.01-\$50.00, **\$5.75**; \$50.01-\$75.00, **\$8.50**; \$75.01-\$100.00, **\$10.00**; over \$100.01-**\$12.00**.

Generous discounts are available for bulk orders of single publications. They are: 10-24 copies, **10%** discount; 25-49 copies, **20%**; 50-74 copies, **30%**; 75-99 copies, **40%**; 100+ copies, **50%**.

# TABLE OF CONTENTS

Acknowledgments.....	iv
Executive Summary .....	v
Introduction.....	1
General Assumptions.....	2
Long-Term Trends.....	3
Education Trends.....	4
Demographic Trends.....	9
Technological Trends.....	13
Economic Trends.....	16
Political Trends.....	18
Social Trends.....	21
Appendix 1: Methodology.....	23
References.....	24

## ACKNOWLEDGMENTS

This paper was written by Dixie Griffin Good, a Denver-based education consultant with a background in future studies.

Special thanks go to Amy de Paul, an Ohio-based education consultant, for her research on behalf of the ECS Futures Committee; Jennifer Jarratt of Coates & Jarratt, Inc., for sharing her expertise as a futurist; members of the *Governing America's Schools* project's Research Steering Committee (particularly Michael Kirst of Stanford University, Susan Mohrman of the University of Southern California and Thomas Timar of the University of California at Riverside) and Research Advisory Board (particularly the late Roy Peterson, Harold Seamon of the National School Boards Association and Larry Swift); and to many ECS staff members, in particular, Todd Ziebarth, Sherry Freeland Walker, Josie Canales and Anna West.

The paper was prepared as background information for the National Commission on Governing America's Schools.

## EXECUTIVE SUMMARY

Education is not an island; it is affected not only by what is happening in the field but also by what is happening in the rest of society — population changes, technological advances, economic ups and downs, political shifts and social transformations. This paper examines ongoing and emerging trends and explores how these trends may affect education in the United States over the next 20-30 years.

Examining trends allows organizations to anticipate change, rather than react to it. Trends do *not* predict what the future will be, but rather indicate directions of change and bring focus to what the future may look like. Within this paper, trends are grouped into the following areas: education, demographic, technological, economic, political and social.

### *Long-Term Trends*

Futurists have identified dozens of long-term trends that define and constrain the way Americans conceive the future. In a sense, these trends are so pervasive or self-evident as to be invisible, much like water is to fish. What follows are some broad trends likely to affect education, directly or indirectly. Some trends may seem contradictory.

- Increasing dominance of technology in the economy and society
- Expanding education throughout society, throughout lifetimes
- Declining middle class; a widening gap between the "haves" and "have-nots"
- Increasing metropolitanization/suburbanization
- Growth of service-sector employment
- Rise of knowledge industries and knowledge-dependent society
- Increase in corporate conglomerates and mergers
- Increasingly global economy
- Shifts in traditional nuclear family; more single-parent families
- Increasing personal and occupational mobility
- Growing demands for accountability in use of public funds
- Increasing concern over privacy

- Increasing privatization of government services.

These long-term trends form the backdrop for current developments and are widely recognized by the general public. In this paper, however, the primary focus is on the key emerging trends in the following areas: education, demographics, technological, economic, political and social.

### *Education Trends*

- Competition among schools for students, educators and funds is increasing.
- Calls for education accountability at all levels are increasing.
- More school districts and states are contracting for education services.
- The demand for education professionals is rising.

### *Demographic Trends*

- "Minority" students are beginning to form the student majority.
- School segregation is increasing.
- Disproportionate numbers of women and children are filling the ranks of the poor.
- The number of senior citizens is growing.

### *Technological Trends*

- Investments in technology infrastructure and equipment for schools are expanding.
- Technology increasingly is being used to change what happens in the classroom or school.

### *Economic Trends*

- Wealth is becoming concentrated in a shrinking elite.
- The unemployment rate does not reveal the extent of employment problems.
- The demand for technically skilled workers is high.

### *Political Trends*

- The call for public accountability is increasing as taxpayers question the spending habits and policies of representative government.



- The federal government is continuing to devolve power.
- Distrust of the federal government is rising.
- Unions are seeking new ways to be effective.
- Term limits on governors and state legislators are growing more common.

### *Social Trends*

- Consumer behavior is becoming driven by a desire to self-differentiate.
- More Americans are espousing the principles of simplicity and community.
- Nonprofit organizations are playing an increasingly important role in providing social services.
- New social ills are revealing the dark side of progress.

Each of the above trends may directly or indirectly affect education. Within this paper, such implications are explored for each of these trends. For example, the following education trend may have implications for education:

### **Trend #1 — Competition among schools for students, educators and funds is increasing.**

#### Implications:

- Rising competition is likely to complicate planning efforts — such as anticipating student enrollments and staffing requirements — and data collection.
- Student achievement levels may rise and teacher performance may improve as schools jockey for better position in the marketplace.
- A more competitive education environment may attract a higher caliber of professionals to teacher and administrator positions.
- On the other hand, public schools may be stripped of their best students, leaving the poor, disadvantaged and special-needs students behind.

It is hoped that the trends and implications presented in this paper stimulate thinking and discussion about the future of public education governance. It is also desired that such thinking and discussion lead to the development of a variety of effective models of public education governance.

## INTRODUCTION

*"The critical issue in planning today is not how to get there. The critical issue is where you want to be."*

Jim Taylor and Watts Wacker, *The 500-Year Delta*

The world is changing in ways that dramatically alter the assumptions, beliefs, traditions and policies that previously served American citizens. Moreover, the rate of change is increasing at an astounding pace, resulting in many traditions and institutions lagging behind developments in some areas, such as technology. To anticipate change, rather than react to it, organizations are identifying trends and examining their possible implications. Rather than predicting what the future will be, trends indicate directions of change and bring focus to what the future may look like.

This paper examines education, demographic, technological, economic, political and social trends, and explores how these trends may affect education. Before this examination, though, the general assumptions and long-term trends that guide this paper are presented.

## GENERAL ASSUMPTIONS

Several general assumptions provide a broad framework for the analysis presented in this paper. They are:

- The trends presented focus primarily on the United States within the next 20-30 years.
- The future is not predetermined; there are many possible alternatives.
- The United States will continue to be a democratic society with a stable government.
- Outside of moderate cycles of growth and decline, the economy will remain relatively stable.
- Cataclysmic change, or "wild card" events, such as nuclear holocaust or severe climate change, are considered unlikely.

## LONG-TERM TRENDS

Futurists have identified dozens of long-term trends that define and constrain the way Americans conceive the future. In a sense, these trends are so pervasive or self-evident as to be invisible, much like water is to fish. What follows are some broad trends likely to affect education, directly or indirectly. Some trends may seem contradictory.

- Increasing dominance of technology in the economy and society
- Expanding education throughout society, throughout lifetimes
- Declining middle class; a widening gap between the "haves" and "have-nots"
- Increasing metropolitanization/suburbanization
- Growth of service-sector employment
- Rise of knowledge industries and knowledge-dependent society
- Increase in corporate conglomerates and mergers
- Increasingly global economy
- Shifts in traditional nuclear family; more single-parent families
- Increasing personal and occupational mobility
- Growing demands for accountability in use of public funds
- Increasing concern over privacy
- Increasing privatization of government services.

## EDUCATION TRENDS

*"The government of the future will be more a focus of resources rather than an owner of them, and purchaser and manager of services, rather than supervisor of personnel and direct service provider."*

William D. Eggers, *Privatization Is the Wave of the Future*

The context within which American children are schooled has been evolving for some time now, as shown in the two columns that follow. Education reform occurs in cycles, and policymakers, educators and citizens are in the midst of a long-standing quest for improving the quality of education. The "solution" may be a panoply of approaches and experiments. At one time, what was taught and how it was taught varied little across the country, but today a number of acceptable education approaches are available.

This evolution reflects the context in which future trends will play out in education. The conditions in the right-hand column will not necessarily, nor should they, replace those on the left, nor are the two sets of conditions mutually exclusive. Rather, the education system is moving toward more balance between the two.

*From . . .*

High compliance  
Time-driven  
Labor intensive  
Subject knowledge  
Rote learning, memorizing  
Focus on academic weaknesses  
Government "owned" and operated

*Toward . . .*

High achievement  
Results-driven  
Capital intensive  
Process knowledge (learning to learn)  
Critical thinking  
Focus on academic strengths  
Government in partnership with interested parties

New developments in education technology — from Internet access to new teaching techniques enabled by classroom computers — also are driving changes in the education environment. Again, the conditions in the right-hand column will not necessarily, nor should they, replace those on the left, nor are the two sets of conditions mutually exclusive. Rather, the education system is moving toward more balance between the two.

*From . . .*

School time  
Teacher-centered  
Textbook funds  
One pace for all  
Buildings  
Mass instruction

*Toward . . .*

Learning anytime, anyplace  
Student-centered  
Education resource funds  
Different rates and styles of learning  
Multiple access points for learning  
Personalized instruction

The key trends within education now and in the foreseeable future concern increases in school competition, accountability, contracting for education services and demand for educators. These trends and their possible implications for education are addressed below.

## **Trend #1 — Competition among schools for students, educators and funds is increasing.**

The watchword for the future in public education is choice. Charter schools, magnet schools, home schooling, vouchers and contract education providers point to the proliferation of school choice, which is driving competition for students and teachers. Recent rulings on voucher systems in Wisconsin and Ohio increase the likelihood that public money will be available for private and religious schools in the future. In addition, the majority of states have charter school provisions, and it is likely that caps on the number of allowable charters will be lifted.

Implications: Some proponents see the advent of choices for K-12 schooling as the salvation of the nation's education system; some opponents see it as the system's final undoing. However one looks at it, the public education monopoly is being challenged. Here are some possible outcomes from the increasing competition:

- Rising competition is likely to complicate planning efforts — such as anticipating student enrollments and staffing requirements — and data collection.
- Student achievement levels may rise and teacher performance may improve as schools jockey for better position in the marketplace.
- A more competitive education environment may attract a higher caliber of professionals to teacher and administrator positions.
- On the other hand, public schools may be stripped of their best students, leaving the poor, disadvantaged and special-needs students behind.

## **Trend #2.— Calls for education accountability are increasing at all levels.**

The factory model of schooling exemplified by a one-size-fits-all, advancing through grades in a lockstep approach is giving way to a model based on standards and testing for competency. How students acquire skills and knowledge is less important than their ability to meet certain standards. Furthermore, the emphasis is shifting to applying academic study toward practical outcomes, such as communicating effectively, solving problems and thinking critically. Several states require students to pass competency tests to receive a high school diploma.

Just as doing "seat time" will no longer guarantee students a diploma, educators and administrators increasingly are being held accountable for the outcomes of their work. Delaware is a leader among states developing accountability systems that hold districts, school boards, superintendents, school principals, teachers, students and colleges of education accountable for their respective performances.

Also, as new evidence of instructional techniques that shatter barriers of race and socioeconomic status comes to light, schools with disadvantaged and minority populations stand to gain. Those that fail to meet expectations will face consequences, which may include

denial of a diploma for failing students, school closure for low-performing schools or state or city takeover of low-performing districts.

**Implications:** After decades of pushing and pulling for education improvements, policymakers in effect have drawn a line in the sand, the implications of which include:

- The push for accountability may augur more evidence-based decisionmaking. North Carolina is among several states already implementing data-warehousing techniques, in which data may be used to compare schools and districts with the hope of determining approaches and expenditures with the best effects on student outcomes. States will demand better education data collection and more sophisticated use of information technologies.
- Demand is likely to increase for solid education policy research about what works to improve teaching and learning. The area of teacher professional development, for example, is undergoing intense scrutiny and revision as standards-based accountability systems point out current weaknesses.
- Colleges of education, and perhaps the entire university, may be held accountable for teacher quality. The disconnection between institutions of higher education and P-12 systems is likely to wane as calls for comprehensive, seamless education systems grow stronger at the state level.
- Long-standing ideas about the academic ability and prospects of students from disadvantaged communities may change. Schools and districts serving these populations may no longer be able to shrug off poor student performance as inevitable.
- Chronically low-performing schools may no longer be allowed to flounder indefinitely. If schools are unable to improve within a given timeframe, an intervention may ensue.
- States and districts are likely to spend more time and effort defining performance consequences — incentives, rewards and sanctions — and enforcing accountability measures.

### **Trend #3 — More school districts and states are contracting for education services.**

The quest for accountability and frustration with a seemingly intractable bureaucracy have made the notion of contracting with providers for public education services increasingly attractive. Colleges, nonprofits and for-profit companies are managing newly created public schools or taking over poorly performing schools in several states. In 1997, the Houston school district contracted with a private school to teach at-risk students and included tough performance requirements in the contract. If the at-risk students do not move up by at least two grade levels a year, they will return to the private school the next year at no cost to the district. The Minneapolis school district's contract with a private consulting firm to manage its public school system also attests to the interest in alternative methods for delivering public education.

Implications: The advent of contract providers for education services gives decisionmakers a new and potentially powerful item in the school improvement toolbox. Implications of this trend include the following:

- Education governing bodies may serve as procurers, rather than direct providers, of education services. School boards may spend less time trying to move the bureaucracy and more time enforcing contracts and shopping for alternatives.
- Persons who serve in administrative positions, on school boards and in statewide offices may need new or different skills to succeed. Management or legal skills may assume more importance. Innovators may have the edge over keepers of the status quo.
- Contracting may allow education administrators to sidestep union roadblocks to reform measures and assign direct responsibility and accountability for performance.

**Trend #4 — The demand for education professionals is rising.**

With a large portion of the education workforce due to retire in the coming decade, coupled with a boomlet in school-age children, the demand for teachers, substitutes, principals and other educators will be significant. Consider these predictions from the Educational Testing Service: By 2005, teaching positions will account for 20% of all jobs available to college graduates; by 2010, the nation will have replaced 75% of all current teachers; by 2020, the school-age population will have grown by more than 20% to 42 million. Even today, substitute teachers are in high demand as higher academic standards force teachers to spend more time educating themselves. In addition, the push for smaller class sizes further drains the pool of substitute teachers.

Implications: Implications of this trend include the following:

- The "monopoly" on teacher certification may come to an end. Alternative methods of teacher certification may meet the growing demand for qualified teachers.
- A national effort may be necessary to recruit students and workers in other fields to education. Schools, districts and states may engage in more intensive recruitment efforts. Rural communities may launch campaigns for educators similar to those they waged to recruit medical professionals.
- Educators and professionals in other fields may have more career options available to them. Charter schools, private schools and contract providers, such as the Edison Schools, may attract people with different qualifications and backgrounds to education.
- Teacher training is likely to change according to new standards and methodologies, e.g., using technology to enhance teaching and learning.



- Lifelong certification may disappear as states insist on higher standards and highly qualified instructors.
- The education bureaucracy, which for decades seemed impervious to reform efforts, may undergo a transformation as new workers and leaders — trained in the emerging climate of accountability and school choice — assume control.

## DEMOGRAPHIC TRENDS

*"To some generations much is given.  
Of other generations much is expected.  
This generation has a rendezvous with destiny."*

Franklin Delano Roosevelt, 1936

"Demography is destiny," as the Baby Boom generation illustrates so vividly. These data tell a great deal about upcoming student populations, from their socioeconomic status to how many seats they will fill in tomorrow's classrooms. In a time of rapid change and increasing uncertainty, demographic data provide the most reliable source of information about what the future may bring. Examining demographic data related to race, phase of life, ethnicity, age and poverty provide information about what the U.S. student population will look like in the next 10-15 years.

### **Trend #5 — "Minority" students are beginning to form the student majority.**

While the birthrate for whites is declining, American population increases will be driven by high immigration rates of Hispanics and Asians. Children of immigrants are estimated to make up 22% of the school-age population by 2010. The U.S. Census Bureau projects the majority of America's school-age children will be members of a racial/ethnic minority by 2030; nearly one in four likely will be of Hispanic origin. By 2050, Asian Americans are projected to make up 9% of U.S. school-age children. Conversely, the percentage of minority teachers is dwindling. The National Education Association expects the percentage of minority teachers to drop soon to an all-time low of 5%.

Implications: These demographics indicate educators will have to accommodate the needs of a student population vastly different from those of previous years.

- Colleges of education must prepare teachers to instruct widely varying student populations.
- Demand for bilingual teachers and principals may surge.
- Educators and policymakers may have to invest considerable effort and resources in curtailing the current high dropout rate among Hispanic students.

### **Trend #6 — School segregation is increasing.**

After decades of decline, studies show school segregation is again on the rise, particularly for Latino students. Immigration patterns and the reversal of desegregation rulings indicate this trend is likely to continue. Furthering the trend are the rise in schooling choices and the widening income gap between society's wealthiest and poorest populations; as noted

previously, students in the upper socioeconomic strata may opt out of public schools, leaving low-income, non-English-speaking students behind.

Implications: As "minorities" come to form the majority of school-age children, the following may increase:

- Overt and covert racism
- Debate over bilingual education
- Polarization and prejudice
- Ballot initiatives from special interests and fringe groups
- Disparate points of view concerning the necessary direction of the country, states and localities.

**Trend #7 — Disproportionate numbers of children and women are filling the ranks of the poor.**

According to demographer Harold Hodgkinson, 40% of U.S. poor are children; 10% are elderly. In 1994, there were 5 million American children living in poverty. Births of children to single mothers rose from one in five in 1980 to one in three by 1993.

Implications: Given the likely reality of rising numbers of economically disadvantaged children from single-parent homes, education policymakers will need to rethink the roles and priorities of public education institutions. Some questions that arise from this trend include the following:

- Will students in the future come to school less ready to learn than those of the past?
- How will equitable education opportunities be afforded to all students?
- How will resources best be allocated among academic, remedial, athletic, after-school and vocational programs?
- Will technology investments pay off? Will computers, multimedia and Internet access motivate or further alienate students who feel marginalized in society?
- What kind of curricula are most appropriate? Should students be prepared for jobs that may not exist or be given a liberal-arts base from which to build?

**Trend #8 — The number of senior citizens is growing.**

In 2011, the first of the Baby Boomers will turn 65, and within 17 years, 70 million people will follow suit, according to Hodgkinson. The "new" seniors are expected to be wealthier and more inclined to exercise political clout than their predecessors.

Implications: Implications of this trend include the following:

- Funding K-12 education likely will become more challenging as the population ages. School-age population growth will demand new buildings, updates and expansions of older buildings. At the same time, older homeowners may balk at footing the bill, as some residents of an Arizona community did recently, forcing school districts to develop alternative funding formulas.

## TECHNOLOGICAL TRENDS

*"Technology itself matters less than the changes it triggers in substance, content, and focus of schooling and school. These changes . . . are effective even if there is only a minimum of change in the technology of learning and teaching."*

Peter Drucker, *The Accountable School*

The history of civilization is largely defined by technological developments, from the simple mastery of fire to the complexity of space travel. Today, the defining factor driving change in nearly every sector of life is the Digital Revolution. In essence, computing devices are becoming smaller, cheaper, more powerful and — perhaps most important — more connected to one another. So far, the impact of digital technology on K-12 education has been relatively minor, although it is not possible to anticipate all the ways in which technology will affect education. If the history of technological advances is any guide, changes in education may be profound, complex, interrelated, delayed and often unexpected.

Education technology proponents argue that not since the Gutenberg press made possible the printing of primers and textbooks has technological advancement possessed such potential to transform education. Skeptics, however, contend similar pronouncements were made for other technological advancements, such as radio, television and film, which have had minimal success in transforming the education system. They also question putting a priority on education technology spending when money and staff resources are needed for other priorities, such as reducing class size. This spirited debate between technology supporters and detractors underscores the fact that the stakes are high.

**Trend #9 — Investments in technology infrastructure and equipment for schools are expanding.**

Despite a lack of evidence that technology improves student achievement, technology investment is and likely will continue to be popular with politicians, parents and private-sector interests. Seven of 10 voters say it is important that the nation's schools be equipped with computers and up-to-date technology, according to a 1997 poll by Peter D. Hart Research Associates Inc. "More computers" often is seen as a solution to virtually any identifiable education problem.

**Implications:** As is often the case with technological change, putting computers in schools brings with it new challenges and unintended consequences. Implications of this trend include the following:

- New pedagogical techniques appropriate to using technology likely will be forthcoming. Recent research shows that technology itself is not as important to improving student learning as how teachers use it.

- Issues of equitable access to technology are likely to continue to surface and grow in complexity. For example, even if a state ensures Internet access to each and every school in the state, the quality of the learning experience is affected by the speed of the computer and the connection, the software used, the quality of technical support and the teacher's capability.
- Policymakers and educators likely will need to become astute technology consumers, planners and overseers. Education leaders likely will need a firm grasp on what technology can and cannot do for teaching and learning, as well as a working knowledge of effective strategies to implement technology in schools and colleges. Without appropriate changes in pedagogical practices, the preparation and support of classroom educators and alignment among plans, policies and practices, technology likely will be a poor investment.
- Funding implications are multifold. Programs may be cut to reallocate resources to technology. The growth of computer use is likely to drive changes in the physical structures of schools. Space may need to be reconfigured to accommodate smaller class sizes with a higher number of technological amenities. Decisionmakers likely will need to move from one-shot funding initiatives to steady funding streams that allow for ongoing technical support, upgrades, maintenance and training. To the extent this is accomplished through resource reallocation, it probably will be a difficult and unpopular task.

**Trend #10 — Technology increasingly is being used to change what happens in the classroom or school.**

Technology's most significant effects on education are likely to come from using it to solve seemingly intractable problems or to do things entirely differently. For example, brain research shows children who are slow readers often have trouble distinguishing the building blocks of language — the phonemes. Computer software can slow down the sounding of these phonemes, with students showing dramatic improvements after some six weeks of training, reports researcher Karen Chenausky. Policymakers and educators also will have digital tools that have the potential to enhance their performance and effectiveness.

Implications: Using technology to solve difficult learning or management problems has the following implications for education:

- Students with reading difficulties, many of whom occupy the swelling ranks of special education students, may be able to participate in mainstream classes after computer-aided training.
- Teachers may be better able to take a more student-centered approach to learning and accommodate multiple learning styles.
- Teachers will be able to use technology for such activities as online research and professional development, classroom management and administrative data gathering.

- Children of itinerant farm workers, once forced to miss weeks of school, may be able to continue their studies by linking to classrooms through computer modems.
- New forms of communication (e.g., e-mail) may increase parental involvement in schools and interest in tracking their children's progress.



## ECONOMIC TRENDS

*"Judged reasonably, almost nothing about the real workings of the economy . . . makes the least bit of sense. One index rises, another falls, and no one knows what to make of either because there are no central tendencies."*

Jim Taylor and Watts Wacker, *The 500-Year Delta*

Although the state of the economy is beyond the direct control of those charged with education governance, the economy strongly affects education, at least indirectly. The globalization of the economy and near-instantaneous world communications make it difficult to chart a course for economic prosperity in the future. No one knows how national economies will perform now that national economic boundaries are increasingly blurred. If Japan goes on a diet, will the United States lose weight?

### **Trend #11 — Wealth is becoming concentrated in a shrinking elite.**

Americans in the top 5% income bracket earn 13 times as much as those in the bottom 5%. The CEOs of the top 300 U.S. companies earn 212 times what their average worker earns. While the economy of late has prospered, and the stock market has posted record highs, members of the working class face increasing job insecurity and earn less in real dollars than in 1979, according to Michael Moore in *Downsize This!*.

Implications: This concentration of wealth in a shrinking elite may have several implications for education:

- Upper-class students may opt for private schools, leaving public schools with a greater proportion of students arriving at school with unmet needs.
- The increasing percentage of minority students, many of whom come from lower-income homes, is likely to place additional demands on school systems.
- Education quality may vary widely across economic strata.

### **Trend #12 — The unemployment rate does not reveal the extent of employment problems.**

While more than seven million people officially are unemployed, the U.S. Bureau of Labor Statistics and the U.S. Census Bureau estimate that another 5.3 million are unemployed but uncounted. Another 4.5 million are working part-time but looking for full-time work, and more than 2.5 million full-time workers earn a wage below the poverty line. That amounts to nearly 20 million people who are unemployed or underemployed in the United States.

In a 1995 survey of 2,000 corporate executives from the world's leading industrial nations, more than 66% of business leaders predicted the pace of downsizing and reengineering would increase in the years ahead. Technological displacement of workers, which a decade ago primarily affected the manufacturing sector, is occurring in agricultural and service sectors as well. According to writer Jeremy Rifkin, the emerging knowledge sector (managers, lawyers, accountants, bankers, business consultants and others who use information technologies to identify, process and solve problems) will absorb a small percentage of displaced labor, but hundreds of millions of workers will be idled permanently by the twin forces of globalization and automation.

Implications: Implications of this trend include the following:

- Increasing competition from abroad may make it more difficult for Americans to find work.
- If the days of relatively low unemployment are coming to an end, the purpose of schooling may need to change.
- School funding formulas may need revision if large portions of the citizenry are unemployed or underemployed.
- Corporate sponsorship of schools may play an increasingly prominent role in funding schools.

**Trend #13 — The demand for technically skilled workers is high.**

According to the U.S. Bureau of Labor Statistics, jobs requiring technical skills, but not necessarily a college degree, will be in demand in the near future. The top 10 fastest-growing jobs from 1994 to 1995 were systems analyst, computer engineer, occupational therapist, physical therapist, special education teacher, paralegal, medical records technician, dental hygienist, respiratory therapist and radiological technologist and technician. The authors of *Workforce 2020* assert the market will continue to demand (and generously compensate) highly skilled workers able to use technology, the demand for low-skilled labor will vary from region to region, and the technological and global economy will lead to unprecedented volatility in work.

Implications: Implications of this trend include the following:

- Changing economic conditions may warrant and/or trigger curricular changes resulting from changing work prospects. Will technical and vocational training gain or lose ground in the K-12 setting?
- If job prospects are grim or substantially different from today's work world, what will become of school-to-work programs?

## POLITICAL TRENDS

*"We'll never live in a true democracy until we have economic democracy."*

Michael Moore, *Downsize This! Random Threats from an Unarmed Nation*

Political change in the United States, fortunately, takes place at a much slower pace than technological change or even economic change. In government and politics, stability is the name of the game, shifts in power between the two major parties notwithstanding. Internationally, the picture is less stable, with Cold War alliances giving way to new political and economic alignments. In addition, corporations are entering the diplomatic arena by virtue of their wealth and power. Today, more than half of the largest economic entities in the world are businesses.

**Trend #14 — The call for public accountability is increasing as taxpayers question the spending habits and policies of representative government.**

State and local decisionmakers increasingly are referring initiatives to the people to decide. Taxpayer revolt is strong, as seen recently in California, with its referenda on spending caps and services for immigrants. While many voters tell pollsters they are willing to pay more for higher-quality education and that they support equal education opportunities for all students, their voting records often belie those good intentions. In addition, as mentioned earlier, seniors may balk at footing the bill for educating an increasingly nonwhite, immigrant school-age population.

Implications: Implications of this trend include the following:

- The aging of the Baby Boomers and their increasing reliance on a culturally and racially diverse population to fund their retirement years may result in political tensions and erode the tax base.
- Legislators may face the unpopular task of developing new funding schemes to keep the education coffers stocked and distributed equitably, or encounter the prospect of a decaying public education system.

**Trend #15 — Term limits on governors and state legislators are growing more common.**

Since 1990, citizen initiatives limiting the terms of legislators have passed in 21 states. In several cases, supreme courts have overturned the term limits and litigation is pending in several others. Nevertheless, term limits on state offices are taking hold and beginning to have an effect on the public policy arena.

Implications: Implications of this trend include the following:

- A higher degree of turnover among governors and legislators portends less continuity in state political power bases.
- The influx of new faces may bring fresh perspectives on complex issues; new officeholders, however, will need time to get their bearings and acquire the skills necessary to be effective in their positions.
- Deep understanding of education issues by state officials may become scarcer, leaving lobbyists, state boards and state departments of education holding the "institutional memory."

**Trend #16 — Unions are seeking new ways to be effective.**

Labor has taken a beating since the 1980s when unions agreed to wage freezes or cuts to avoid job reductions, Rifkin notes. Only some 10% of today's workforce is unionized, compared to over 40% in the 1940s, writes Moore in *Downsize This!* Union membership and clout, however, may be on the upswing. The successful 1997 UPS strike and, more recently, the strikes against Baby Bells indicate growing union strength, not only for blue-collar workers, but for some white-collar workers as well. In light of economic changes and uncertainty, some labor leaders are seeking a less adversarial relationship with employers and moving toward partnerships.

The National Education Association (NEA), following the lead of several local chapters, may be moving toward a similar approach in an effort to mitigate the view that teacher unions impede progress on school reform. Inner turmoil, external criticism and membership turnover within teacher unions may lead to some structural and operational changes, including a merger between NEA and the American Federation of Teachers (AFT). In fact, the two state chapters in Minnesota merged this year to form Education Minnesota.

Implications: Changes in teachers' unions could have the following implications:

- The NEA and AFT's recent consideration of a merger indicates consolidating and repositioning may be in the offing. A merger could give teachers more leverage in local and national issues.
- Teacher unions may come to partner with schools to support school reform, such as supporting peer review and tougher qualifications for teachers. This step could have a significant impact on implementation of reform strategies.

**Trend #17 — The federal government is continuing to devolve power.**

In his 1995 State-of-the-Union address, President Clinton proclaimed, "The era of big government is over." Big government is waning, with decisionmaking power moving from the federal government to state and local governments. The hue and cry for less intrusive, yet more responsive, government increasingly is answered by those who say, "Let the states

decide." For example, responsibility for many health and welfare issues has been devolved to the states. Whether the states can do a better job remains to be seen, but the public is likely to hold state and local decisionmakers accountable for their actions. For their part, state and local governments are finding it attractive to contract with for-profit companies to provide services, such as case management and welfare-to-work assistance.

Implications: Recent changes in the welfare system provide an example of the possible implications for education from the devolution of power from the federal government. These changes have raised questions about how time limits on welfare payments and work requirements will affect children of welfare recipients, particularly children of single mothers.

- If these children join the ranks of homeless or suffer from inadequate home care, they are likely to place new health and social demands on schools, as well as on education.
- Public schools may have to contend with the fallout from these changes, including higher dropout rates.

#### **Trend #18 — Distrust of the federal government is rising.**

The hardships of the underclass and economic disparities are driving forces behind a small but growing antigovernment movement, writes Joel Dyer in *Harvest of Rage: Why Oklahoma City Is Only the Beginning*. And, as Rifkin notes in *The End of Work*, "In virtually every industrial nation, fear of an uncertain future is driving more and more people from the mainstream to the margins of society, where they seek refuge in extremist political and religious movements that promise to restore public order and put people back to work." He foresees rising technological unemployment and declining purchasing power plaguing the global economy and "undermining the capacity of governments to effectively manage their own affairs."

Implications: Implications of this trend include the following:

- Home schooling may continue to increase, placing new or different demands for services on public schools.

## SOCIAL TRENDS

*"America's Millennial Generation. Cute. Cheerful. Scoutlike. Wanted . . . Not since the early 1900s have older generations moved so quickly to assert greater adult dominion over the world of childhood — and to implant civic virtue in a new crop of youngsters."*

William Strauss and Neil Howe, *Generations*

The authors of *Generations* characterize the Baby Boomers as determined to provide a wholesome and protected environment for their offspring. These children are more likely to be wanted, as abortion rates peaked in 1980. They also are beneficiaries of a significant children's advocacy movement, as exemplified in expanded Medicaid for children and the demand for quality education.

**Trend #19 — Consumer behavior is becoming driven by the desire to self-differentiate.**

Consumers are developing a penchant for self-differentiation and nonconformity. Accordingly, mass marketing is giving way to niche marketing. The urge to define one's self by the products and services consumed provides the backdrop for lifestyle choice, consumer behavior, political behavior, education choices and expectations.

Implications: Implications of this trend include the following:

- Where once Americans were content with essentially one school system that varied little across the nation, they now are demanding more choices. Charter and magnet schools are likely to continue spreading across the land.
- Providers of education, faced with growing competition for students, will do well to sharpen their marketing skills. Consumers likely will expect to see such things as a school's performance record, areas of focus and areas of teacher expertise before enrolling their children.

**Trend #20 — More Americans are espousing the principles of simplicity and community.**

The high-consumption society increasingly is called into question as more Americans feel enslaved to the money-making lifestyle. Unlike the Hippie movement in the 1960s, which was largely a rejection of authority and conformity, the trend toward voluntary simplicity is motivated more by a quest for social responsibility and lifestyle satisfaction.

Implications: This trend to simplicity has the following implications for education:

- An increase in community involvement, neighborhood activism and grass-roots political activity may be a key by-product of voluntary simplicity.
- Neighborhood schools may see a resurgence, with neighbors involved and committed to developing and running schools in accordance with their values and priorities.

**Trend #21 — Nonprofit organizations are playing an increasingly important role in providing social services.**

As was the case with the rise in homelessness in the 1980s, nonprofit and volunteer organizations are stepping in to fill the void created by government limitations on social services.

Implications: Implications of this trend include the following:

- To the extent such needs go unmet, schools may be pressed into providing services or dealing with the consequences of inadequate services.
- Schools may partner with nonprofits to help kids succeed in school.

**Trend #22 — New social ills are revealing the dark side of progress.**

The presence of disenfranchised, alienated youth is hardly a new phenomenon, but changing times are yielding new means for acting out antisocial or aggressive tendencies. Violence is increasing, rural America's pastoral image is being tarnished and increasing access to virtual reality is leading to new kinds of maladies, such as computer addictions and Internet crime.

Implications: Education could feel the effects of these new social ills in the following ways:

- New methods of early detection, intervention and security measures may be used to deter violence on school campuses.
- School safety may become an increasingly important issue for education and community leaders.



## APPENDIX 1 METHODOLOGY

Techniques for anticipating possible futures have been developed and refined, particularly in the last few decades, to address uncertainty about the future, societal complexity and the rate of change. Decisionmakers in business and government can use these techniques to develop strategic plans, prepare for alternative contingencies and prepare their organizations to adapt to and thrive in new situations. Early trend detection — and anticipation of potential implications for a particular organization or enterprise — gives decisionmakers an advantage, not necessarily in influencing the trend, but in positioning the organization to minimize negative impacts and maximize positive impacts.

Commonly used future studies techniques include environmental scanning, issues management, scenario building, legislative tracking, Delphi techniques (expert interviews or surveys) and trend extrapolation. This report relied primarily on trend identification and analysis. The trends listed were identified after extensive reading of general print and Internet materials, and more focused reading and conversations with education policy analysts. Included in the survey of literature are what may be considered "alternative" sources, such as Michael Moore's book, *Downsize This!*, about middle- and working-class woes or Joel Dyer's book, *Harvest of Rage*, about the rural roots of the antigovernment movement.

A note about trend extrapolation: data are always open to interpretation. One person may look at today's economy and see nothing but blue skies, another person may foresee economic collapse around the corner. Shrewd leaders are often optimistic about the future, but make contingency plans for the worst-case scenarios.

Trends do not continue unabated indefinitely. Futurists speak of mature trends and emerging trends. In this paper, a number of long-term trends are identified, e.g., increasing metropolitanization and suburbanization. These long-term trends form the backdrop for current developments and are widely recognized by the general public. The primary focus here, however, is on the key emerging trends likely to affect education. Emerging trends can take a little more effort to detect. They are often the ones that, with hindsight, decisionmakers say, "It was there all along. Why didn't I recognize that change?"

When situations move far enough afield from the norm or center, the change process rolls into motion. For example, a decline in urban school performance will be tolerated only for so long before parents, administrators and other stakeholders band together and declare war on the problem. In political cycles, popular ideology shifts, or as some say "the center shifts," but the pendulum eventually swings. Hence, trend identification and analysis can be useful in generating a call to action, or, even better, can spur decisionmakers to identify a preferred future and chart a course for getting there.

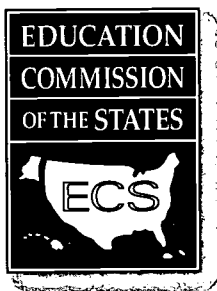


## REFERENCES

- Archer, Jeff (1996, March 27). "Surge in Hispanic Student Enrollment Predicted." *Education Week*.
- Archer, Jeff (1997, October 29). "A Different Kind of Union." *Education Week*.
- Bellah, Robert N., and Madsen, Richard (1991). *The Good Society*. New York: Knopf (distributed by Random House).
- Bradley, Ann (1998, October 21). "Merged Unions in Minnesota Get Blessing of National Organizations." *Education Week*.
- Chenausky, Karen (1997, August/September). "Training Dyslexics First to Hear, Then to Read." *MIT Technology Review*.
- Cetron, Marvin, and Gayle, Margaret Evans (1990). *Education Renaissance: 43 Trends for U.S. Schools*. World Future Society.
- Coates, Joseph F.; Coates, Vary T.; Jarratt, Jennifer; and Heinz, Lisa (1986). *Issues Management: How You Can Plan, Organize and Manage for the Future*. Washington, DC: Coates & Jarratt, Inc.
- Cuban, Larry, and Kirkpatrick, Heather (1998, Summer). "Computers Make Kids Smarter — Right?" *Technos*, Vol. 7, No. 2, pp. 26-31.
- D'Amico, Carol; Geipal, Gary L.; and Judy, Richard W. (1997). *Workforce 2020: Work and Workers in the 21st Century*. Washington, DC: The Hudson Institute.
- Dertouzos, Michael (1997). *What Will Be: How the New World of Information Will Change Our Lives*. San Francisco: HarperEdge.
- Drucker, Peter F. (1993). *The Accountable School*, from *The Post-Capitalist Society*. New York: Harper Business.
- Dyer, Joel (1997). *Harvest of Rage: Why Oklahoma City is Only the Beginning*. Boulder, CO: Westview Press.
- Education Commission of the States (ECS) (1998). *Designing and Implementing Standards-Based Accountability Systems*. Denver, CO: ECS.
- Education Commission of the States (ECS) (1998). *Harnessing Technology for Teaching and Learning*. Denver, CO: ECS.
- Education Commission of the States (ECS) (1998). *Learning and Technology: Integrating Policy Perspectives and Research*. Denver, CO: ECS.
- Education Commission of the States (ECS) (1998, November). *Clearinghouse Notes: "High School Graduation Requirements."* Denver, CO: ECS.
- Educational Testing Service (1997). *Annual Report*. Retrieved from the World Wide Web: <http://www.ets.org/etsar/arscr1.html>.
- Eggers, William (1997, July 3). "Privatization Is the Wave of the Future." Retrieved from the World Wide Web: <http://www.intellectualcapital.com>.

- Fahey, Liam, and Randall, Robert M., Eds. (1998). *Learning from the Future: Competitive Foresight Scenarios*. New York: John Wiley & Sons, Inc.
- Federal Reserve Bank of Dallas (1996). *1996 Annual Report. The Economy at Light Speed: Technology and Growth in the Information Age — And Beyond*. Dallas, TX: Federal Reserve Bank of Dallas.
- Frazier, Calvin M. (1987). "The 1980s: States Assume Educational Leadership." National Society for the Study of Education Yearbook. Chicago, IL: University of Chicago Press.
- Griffith, Francis A. (Jerry) (1996). *Comprehensive (P-16) Standards-Based Education: Roles and Challenges for Postsecondary Education*. Denver, CO: State Higher Education Executive Officers and Education Commission of the States.
- Haycock, Kati (1998). "Good Teaching Matters . . . A Lot." *Thinking K-16*. The Education Trust, Vol. 3, Issue 2.
- Hodgkinson, Harold (1996). *Bringing Tomorrow into Focus: Demographic Insights for the Future*. Washington, DC: Institute for Educational Leadership.
- Hill, Paul T.; Pierce, Lawrence C.; and Guthrie, James W. (1997). *Reinventing Public Education: How Contracting Can Transform America's Schools* (Rand Research Study). Chicago, IL: University of Chicago Press.
- International Society for Technology in Education (ISTE) (1998, June). *National Educational Technology Standards for Students*. Eugene, OR: ISTE.
- Kolasky, Bob (1997, July 3). "Issue of the Week: Power to the States?" Retrieved from the World Wide Web: <http://www.intellectualcapital.com>.
- Leyden, Peter. (1995, June 25). "Learning Will Become Interactive: Current System Was Created in the Industrial Age To Mass Produce Workers." *Star Tribune*. Retrieved from the World Wide Web: <http://www.Startribune.com/stonline/html/digage/learning.htm>.
- Moore, Michael (1996). *Downsize This! Random Threats from an Unarmed American*. New York, NY: Crown Publishers, Inc.
- Oppenheimer, Todd (1997, July). "The Computer Delusion: Cutting Other School Subjects To Make Room for Computers May Be Educational Malpractice." *Atlantic Monthly*.
- Orfield, Gary; Bachmeier, Mark D.; David, James R.; and Eitle, Tamela (1997). *Deepening Segregation in American Public Schools: A Special Report from the Harvard Project on School Desegregation*. Cambridge, MA: Harvard University.
- Peter D. Hart Research Associates (1998, June 25). "Public Opinion Survey for the Milken Exchange on Education Technology." Presented at the 1998 Milken Family Foundation National Education Conference, Los Angeles, CA.
- Pressley, Sue Anne (1998, January 13). "School Fight in a Gray Area; Retirees in Phoenix Suburb Resist Taxation for Education." *The Washington Post*.
- Rifkin, Jeremy (1995). *The End of Work*. New York, NY: GP Putnam's Sons.

- Schwartz, Peter (1991). *The Art of the Long View: Planning for the Future in an Uncertain World*. New York, NY: Doubleday.
- Shannon, Thomas A. (1987, March). *The Story of the National School Boards Association*. Alexandria, VA: National School Boards Association.
- Strauss, William, and Howe, Neil (1991). *Generations: The History of America's Future, 1584 to 2069*. New York, NY: Quill William Morrow.
- Taylor, Jim, and Wacker, Watts (1997). *The 500-Year Delta: What Happens After What Comes Next*. New York, NY: HarperBusiness.
- Traub, James (1997, October 20 and 27). "Drive-Thru U., Higher Education for People Who Mean Business." *The New Yorker*.
- Tyack, David (1993). "School Governance in the United States: Historical Puzzles and Anomalies." *Decentralization and School Improvement: Can We Fulfill the Promise?* Jane Hannaway and Martin Carnoy, eds. San Francisco, CA: Jossey-Bass, Inc. Publishers.
- Tyack, David, and Cuban, Larry (1995). *Tinkering Toward Utopia: A Century of Public School Reform*. Cambridge, MA: Harvard University Press.
- Wenglinsky, Harold (1998). *Does It Compute? The Relationship Between Educational Technology and Student Achievement in Mathematics*. ETS Policy Information Report. Princeton, NJ: Educational Testing Service. Retrieved from the World Wide Web: <http://www.ets.org/research/pic>.



Education Commission of the States  
707 17th Street, Suite 2700  
Denver, CO 80202-3427  
303-299-3600  
fax: 303-296-8332  
e-mail: [ecs@ecs.org](mailto:ecs@ecs.org)  
[www.ecs.org](http://www.ecs.org)



**U.S. Department of Education**  
Office of Educational Research and Improvement (OERI)  
National Library of Education (NLE)  
Educational Resources Information Center (ERIC)



## NOTICE

### REPRODUCTION BASIS



This document is covered by a signed “Reproduction Release (Blanket) form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a “Specific Document” Release form.



This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either “Specific Document” or “Blanket”).