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## The crisis in American education: The impact on vocational education

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THE CRISIS IN AMERICAN EDUCATION:  
THE IMPACT ON  
VOCATIONAL  
EDUCATION

by  
Barbara Ann Quade

A thesis submitted in partial fulfillment  
of the requirements for the degree of

Master of Arts  
in  
Ethics and Policy Studies

Ethics and Policy Studies  
University of Nevada, Las Vegas  
May, 1990

APPROVAL PAGE

The thesis of Barbara A. Quade for the degree of Master of Arts in Ethics and Policy studies is approved.



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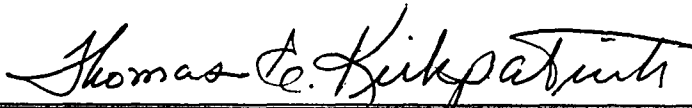
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## ABSTRACT

The Crisis in American Education: The Impact on Vocational Education is an interpretation and evaluation of the problems in the American education system as it is structured today. That system is failing American citizens by annually producing thousands of illiterates -- people who are unable to read, write and count well enough to adequately function in today's society. Moreover, schools are failing to provide an adequate number of skilled workers for government, the military, and business and industry, and that trend will continue unless a drastic restructuring of the entire school system takes place.

The interpretive section of the paper: examines some of the reports published on what is being termed the crisis in education, reviews the problems of illiteracy and how it impacts on technical skills, and details the concerns of the military, business and industry, and interested individuals regarding the quality of education in the United States. Current efforts to solve the problem of mediocrity in education are considered, in particular, how those efforts are affecting vocational education programs at the secondary level. Interviews with educators and labor leaders in Las Vegas, Nevada point out the



problems encountered with the shortage of people who could become skilled workers in Southern Nevada.

The evaluative section further analyzes other sources of data on mediocrity in the nation's schools, and contains critical statements regarding: government's role in education, suggested reforms, probable causes for the decline in the quality of education, and the school dropout problem.

Finally, the paper addresses issues of ethics involved in the failure to provide quality education, and an assessment of the present-day work ethic in America.

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## I. INTRODUCTION

One of the major concerns in American society today is the condition of the present educational system. There are many who consider the system to be in a chaotic state: in a crisis situation. They argue that education, as it is currently being offered, is failing American citizens.

This policy project will be an investigation of what many are calling an inadequate school system.

The interpretive section of this paper will include: the examination of the conclusions of several major reports on what is being termed the mediocre condition of education today; results of national surveys on literacy; expressed concerns of the military, business and industry, and interested private citizens regarding the shortage of skilled workers in the United States; and the results of interviews with labor unions and school officials in the Southern Nevada area who contributed their views on problems in education in Nevada.

The evaluation chapter of the paper presents other sources of data, and evaluative criticisms of the quality of education in this nation including: the federal government's role in the schooling of our youth; suggested reforms; probable causes for the decline in the quality of education; the case for vocational education; and the role

of ethics in our failure to provide quality education.

The conclusion of this work presents an assessment of the present-day work ethic in America -- we may be conveying to our youth the idea that excellence in the crafts such as cabinet-making, installing a Spanish-tile roof, unplugging a faulty plumbing system, erecting a bridge, or repairing a broken auto, are undignified because they involve manual labor and not a college education.

Finally, this paper appeals to all Americans to become actively involved in demanding excellence in education, and stresses the urgent need for immediate and drastic vocational education reform, with a particular emphasis on Southern Nevada.

## II. INTERPRETATION

The education system has failed the nation. It has not produced enough well-educated, technically qualified graduates who can enter the work force and become productive members of society. This is true at every tier from entry-level technician to research scientist. And the future doesn't look any better.<sup>1</sup>

This alarming observation is from a recent report entitled America's Next Crisis: The Shortfall in Technical Manpower, produced by the Air Force Association's Aerospace Education Foundation (AEF), an organization that has been involved, since 1956, in the development of superior scientific and engineering talent, and technical literacy in America.

Conclusions such as these have been voiced by countless experts, analysts, educators, and concerned individuals who view the condition of the present educational system in America today as a problem of crisis proportions. Dozens of surveys, studies, and reports on the quality of education in the United States have been published in the wake of the 1983 report, A Nation at Risk: The Imperative for Educational Reform,<sup>2</sup> released by the National Commission on Excellence in Education. According to the Air Force Association's AEF study, the failure of the educational system has engendered a serious skills gap that is endangering our prosperity, our place in world

leadership, and our very nation itself. A menacing crisis exists: the nation's schools are not educating and training students to become qualified and productive members of today's workforce. According to the Aerospace Education Foundation,

This crisis is home-grown, not a foreign threat. It is a self-inflicted wound that threatens to destroy the U.S. competitive edge. The United States faces a crisis situation as hazardous to its future as if several enemies attacked simultaneously.<sup>3</sup>

What follows is the presentation of findings and information that focus on the situation in the American educational system under the following headings:

1. Literacy;
2. Literacy and technical skills;
3. Current efforts to solve the problem;
4. The problem in vocational education;
5. The Southern Nevada problem.

1. LITERACY: The condition of the educational system has become a matter of deep concern to numerous associations, interest groups, and public-minded citizens in all sectors of our society -- the military, government, business and industry, education, civic leaders, and private individuals. In the reports generated by these entities, the terms 'literacy', 'marginal literacy', 'illiteracy', and 'functional illiteracy', are central. As a point of reference, according to the Business Council for Effective Literacy, the "marginally literate are usually unable to function productively in a work environment."<sup>4</sup>

But, as the National Assessment of Educational Progress (NAEP)<sup>5</sup> report on literacy concludes, there is no established standard by which to measure literacy. To try to remedy this defect, the NAEP offers, as a usable, updated definition, that literacy is the

ability to use printed and written information [well enough] to function in society, to achieve one's goals, and to develop one's knowledge and potential.<sup>6</sup>

This definition was formulated in order to conduct a 1985 study in which profiles of adult literacy (thus defined) were measured in three areas:

1. Prose literacy -- reading and understanding books, newspapers and magazines;
2. Document literacy -- identifying and using information in bus schedules, job applications, tables, forms, and maps;
3. Quantitative literacy -- using arithmetic functions for such daily needs as balancing check books, calculating tips, and figuring interest on loans.

Examples of the lowest benchmarks of literacy as measured by the NAEP in each of the three areas tested included:

1. Prose literacy: in a reading test that assessed "single-feature-match", i.e., the identification of a single item in which the correct answer consisted of exact words extracted from the short test news story, 96 percent of young adults could identify the correct answer. But, when asked to identify three main ideas of a news item and condense them into one paraphrase, only 37 percent were able to do so;
2. Document literacy: when asked to match an 8-item grocery list with a newspaper ad containing prices and cents-off coupons for four of the items, 96 percent of the participants were able to match shopping list items with discount coupons. However, shockingly, only 20 percent were able to decipher, from a bus schedule, the length of waiting time



between a missed bus and the next scheduled bus departure; and finally,

3. Quantitative literacy: 92 percent of those tested were able to add two entries on a bank deposit slip, but only 38 percent were able to perform the calculations necessary to total two items from a restaurant menu, determine the amount needed for a 10 percent tip, and then figure the change due back.<sup>7</sup>

From these NAEP findings, it is apparent that there is something young people are not doing -- they are not thinking, not analyzing, and not using general skills to solve problems. The constructive ability of the mind enables one to assimilate information, organize it, put it together, and produce the best possible solution to a problem. But, as Dr. Craig Walton, director of the Ethics and Policy Studies graduate program at the University of Nevada Las Vegas observes,

[Today's] youth are intellectually passive and dependent ... and a large sample of young American adults ... cannot use ... isolated bits of knowledge and simple skills by connecting them up one to another in trains of reasoning, or make analyses of a problem to lead them to steps they could do to reach a solution. They are not able to reason in practical ways directly necessary to life today.<sup>8</sup>

It is not that American youths are less intelligent than their peers in other parts of the world; as Walton concludes,

Rather, it is that these 'higher skills' are not being identified as part of education's agenda, and therefore, they are not being nurtured.<sup>9</sup>

America's schools simply are not training students in the

higher skills of practical reasoning, argumentation and critical thinking.

2. LITERACY AND TECHNICAL SKILLS: The U.S. Labor Department has formulated a measurement method for assessing the literacy levels necessary for a broad range of jobs. Based on a scale of one to six, it assesses reading, math, writing, and vocabulary skills (see figure 1).

- Level 1. Reading vocabulary of 2,500 words, reading rate of 95-125 words per minute, and the ability to write simple sentences;
- Level 2. Reading vocabulary of 5,000-6,000 words, reading rate of 190-215 words per minute, can write compound sentences;
- Level 3. Can read safety rules and equipment instructions, and write simple reports;
- Level 4. Can read journals and manuals, and write business letters and reports;
- Level 5. Can read scientific/technical journals and financial reports, and write journal articles and speeches;
- Level 6. Same skills as level 5, but more advanced.

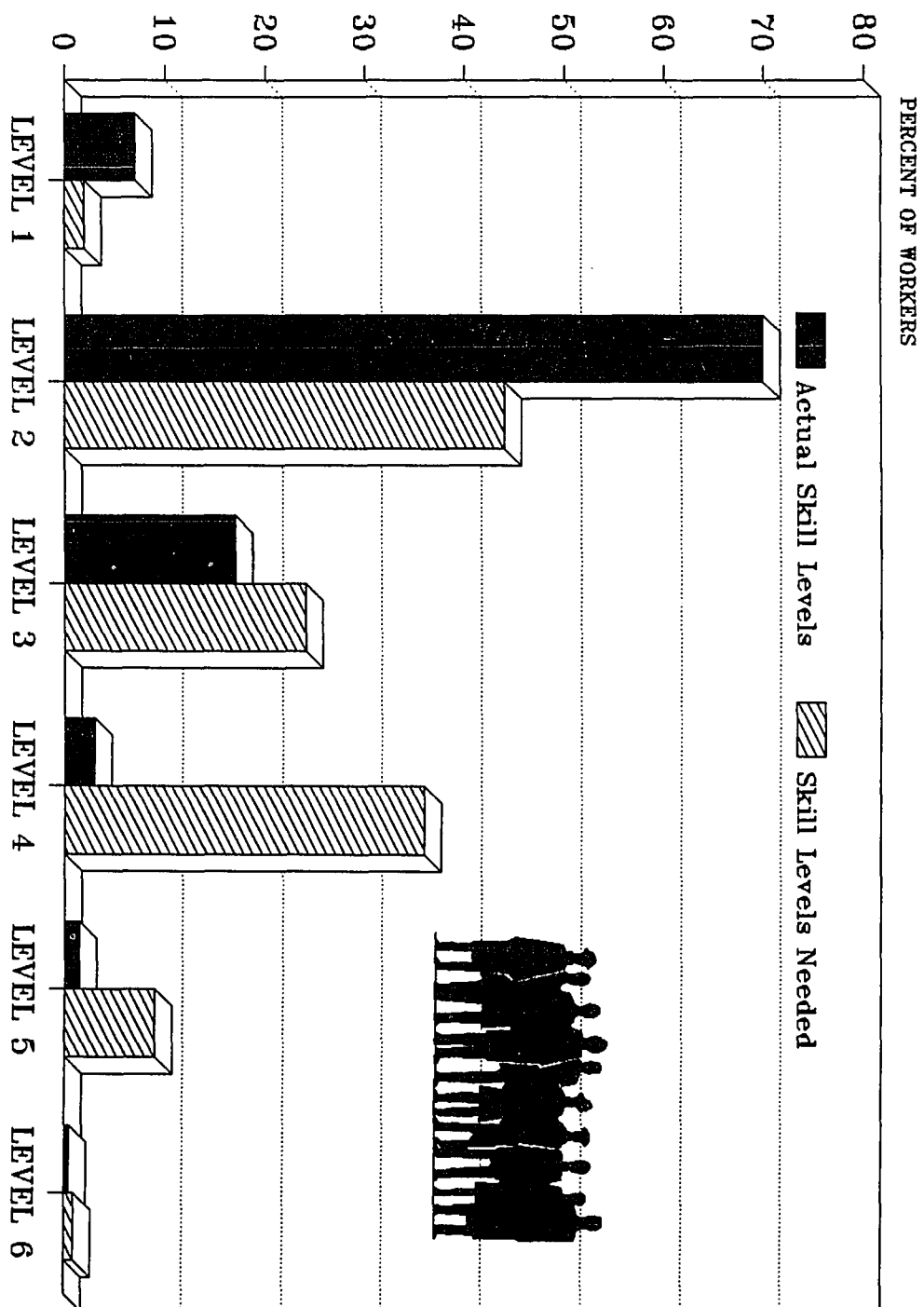
A compilation of statistics using this scale prompts the Department to infer that,

The modern workplace needs people with high reading and math capabilities, so millions of jobs go unfilled while the army of the unskilled remains unemployed.<sup>10</sup>

One former Secretary of the Air Force, Verne Orr, observed that, in the Air Force, 72 percent of the enlisted specialties require a technical background, and the enlistees coming out of our high schools today do not have

# MISMATCH BETWEEN WORKERS AND JOBS

Figure 1



it. Aviation Week & Space Technology reports,

The U.S. is facing a shortage of engineers at all degree levels ... [that could] topple the U.S. aerospace and defense-related industries from the dominant position they have exerted on the world-wide defense market since the end of World War II.<sup>11</sup>

In order to function adequately, the Department of Defense must have an adequate number of scientists and engineers. The commander of the 'Red Horse' Engineering Squadron at Nellis Air Force Base, Nevada, Lt. Col. Jim McEvoy, says that the U.S. will be short 700,000 scientists and engineers between 1989 and 2010. This will be especially detrimental to the branches of the military: the available scientists and engineers will enter the far more lucrative civilian job market rather than join the Armed Forces.

In addition to technically qualified enlisted volunteers, the Air Force needs officers with technical backgrounds and degrees. The Airmen's Enlisted Commissioning Program (AECPP) allows active-duty enlisted personnel with 45 semester hours of college credit to apply to a program that will result in officer commissioning. With a passing score on the Air Force Officers' Qualifying Test (AFOQT), the enlistee can complete the last two and one-half years of college at the institution of his choice, and then be commissioned as a second lieutenant. But, sadly, Air Force Education Office statistics show that the majority of enlisted aspirants to the AECPP program:

- (1) cannot make passing grades in the college physics and calculus courses required as prerequisites for the commissioning program; [and]
- (2) are unable to pass the AFOQT, which assesses math, science, reading, and communication skills.

The Army, Navy, and Marine Corps are equally in need of recruits with basic math and science skills, and are finding that their enlistees are, again, equally and sadly, deficient in these areas. The Army reports that, while new technologies are emerging, their average recruits are coming into the service with barely 9th and 10th grade levels of math and reading literacy. The Navy says that, with ever-advancing technology, it won't have enough qualified recruits by the year 2000. All branches of the military have found it necessary to provide remediation in reading and math skills before they can even begin the sophisticated technical training required for most jobs in today's Armed Forces. But, federal budget cuts have caused the military to eliminate remediation programs, resulting in:

- (1) technical instructors expending additional manhours reviewing math and reading skills;
- (2) on-the-job supervisors postponing or eliminating other administrative duties in order to tutor subordinates in basic academic skills.

The military branches word their technological and safety manuals at the 9th grade level of reading, but find that enlistees still have difficulty in interpreting the manuals, completing work order forms, and communicating

discrepancy reports to peers and superiors. Older career enlisted military managers experience problems in completing efficiency reports on their subordinates. When it comes to writing a 'word picture' of a subordinate's job performance, many of these middle managers have difficulty with written communication skills. The Armed Forces have long been the siphon for the educationally deprived, equipping their recruits with skills that would benefit them in the civilian world after completion of their military commitment. But the (once-accurate) image of an unskilled, illiterate high school dropout enlisting in the military and making good by working his way 'up through the ranks' simply doesn't hold today: the daily work environment of the military mirrors that of the civilian sector -- today's technology requires a literate, skilled workforce, and a literate, skilled military force.

In its report, Lifeline in Danger, The Aerospace Education Foundation states that,

American industry today is unable to expand its production to meet wartime mobilization needs in less than eighteen months. [Because of the technological skills gap], it is not possible to surge the output of even the most important weapons and war materiel much faster than that. The nation's educational system [has] failed to provide an ample supply of technical manpower.<sup>12</sup>

Defense contractors are facing the same shortage of qualified manpower. The Department of Defense (DOD) relies on civilian contractors to supply engineering, machining

and technical support to the Armed Forces. The DOD is increasingly in need of qualified engineers, scientists, and technicians from the civilian sector, and they are not being produced by the American educational system.

3. CURRENT EFFORTS TO SOLVE THE PROBLEM: President George Bush has long voiced concerns over the quality of education in this country, and has vowed to become the 'education president'; Mrs. Barbara Bush has also demonstrated her great interest in education, particularly in reading skills. Yet so far, at the executive level of government, there seems to have been little progress made in combatting the crisis in the quality of education in our nation. President Bush met with the nation's governors at an education summit at the University of Virginia in Fall of 1989. He warned that, "The nation is imperiled when children emerge into adulthood ignorant and unskilled."<sup>13</sup> Participants at the summit included prominent educators, besides the governors, and members of the executive branch of government. A list of goals was issued for educational reform, but Governors George Deukmejian of California and outgoing Thomas Kean of New Jersey cautioned that educators may resist any proposed reforms. So, the outcome of the conference was that the participants in the summit 'agreed to agree' there is a major problem in American education. But, it seems there is neither the will nor an immediate plan to overcome it.

The U.S. Commerce Department reports that one out of every three businesses finds it necessary to provide employees with basic schooling -- remedial instruction in math, reading and writing skills. The Department adds that the U.S. loses roughly \$240 billion per year "in lost taxes and wages, and increased public assistance."<sup>14</sup> John Correll reports in Air Force magazine, that businesses spend about \$30 billion per year to train or retrain their workers (who have finished high school) in basic math, reading, and comprehension skills; the loss of productivity and the waste of human potential is almost impossible to calculate.<sup>15</sup>

The U.S. Department of Labor's Hudson Institute, an economic think tank, has concluded that,

Most new jobs will require workers who have solid reading and writing skills, but fewer than one in four new employees will be able to function at the needed levels.<sup>16</sup>

With almost identical forecasts, the U.S. Census Bureau predicts that, if present trends continue, by the year 2000, 70 percent of America's general population will be considered functionally illiterate, which means that 70 percent will be virtually unemployable. To add further to these alarming figures, Aerospace Industries Association predicts that, by the turn of the century, businesses and industries will be employing one million people per year who cannot read, write, or count. Figures such as these could be expected in an up and coming third world country,



but not in a nation that is a world leader.

In a recent survey by the Carnegie Foundation for the Advancement of Teaching, it was concluded that

public education, despite six years of reform, is still producing inadequately prepared students.<sup>17</sup>

In a poll of almost 5,500 college and university professors, the survey found that two-thirds of those faculty members find their college students are deficient in basic skills they should have learned in high school. The professors believe there has been a widespread lowering of standards in U.S. higher education, and that colleges spend too much time and money teaching students what they should have learned at the secondary level.

Mike O'Callaghan, former educator and past governor of Nevada, observes that, in today's work world, a 9th to 12th grade reading level is required just for the bare essentials necessary to earn a livelihood, but that employers are experiencing increasing difficulty in finding employees with these reading levels. He goes on to say,

We are rapidly becoming a computerized society that has more software than hard facts and knowledge of our world past, present and future. This has all come about with a sharp drop in the ability of [the American] people to grasp and keep the philosophical tenets that have made this a great nation.<sup>18</sup>

O'Callaghan asserts that, without basic reading skills, people will enter the adult world uneducated, and will probably leave it that way.

Ben Stein, of the Los Angeles Times/Washington Post News Service, recently warned that the American society is in decline and heading for a fall. Says Stein,

It's the communications age and no one can write a letter. Few can even leave a very good phone message.<sup>19</sup>

He observes that, in the U.S. today, there are no first-rate novelists, nor artists, sculptors, nor symphonic composers of note. He speaks of a society which is reversing toward a

mediocrity [in which] what was considered average in 1959 will be unimaginable greatness in 1999 -- or else incomprehensible.<sup>20</sup>

Because of our deficient educational system, we are not only losing our ability to work, we do not know literature, history, good music, or fine art; we cannot read, write, spell or count. These deficiencies in education inevitably contribute to deficiencies in culture.

Lee Iacocca, Chrysler Motor's outspoken chairman, recently told a joint gathering of the Magazine Publishers Association and American Society of Magazine Editors,

America isn't going to fare very well in marketing, or manufacturing, or much of anything else in the 1990s with the highest functional illiteracy in the industrialized world.<sup>21</sup>

In a January 1989 issue of Financial World, economists expressed concern about Americans retiring too early, leaving an ever-shrinking work force of poorly-educated, unqualified and unskilled workers. The nation does not

have enough qualified people to take their places: not enough people to fill the skills gap. John Correll, of Air Force magazine, cites an incident in which an employee of a major business wasted nearly \$700 in materials in one morning: because he could not read a ruler, the man could not accurately measure yards of sheet metal.

The Chemical Bank of New York discloses that it has to interview at least 40 job applicants in order to come up with just one who will qualify to be successfully trained as a teller. Similarly, Nynex Corporation's New York Telephone Company tested 60,000 applicants last year in order to fill 3,000 job openings.

There are lots of people who still want jobs, but they're [high school] dropouts who aren't qualified,<sup>22</sup>

says Howard Harman, New York Telephone's director of employment.

In a recent article in Newsweek magazine, David T. Kearns, chairman and chief executive officer of the Xerox Corporation, ominously warned that, "America is going to be out of business by the year 2000 unless we restructure our public schools."<sup>23</sup> He goes on to say that the nation's high schools graduate 700,000 students per year who are functionally illiterate: they are not equipped with the basic skills necessary to succeed in today's complex world. Another 700,000 teenagers drop out of high school each year. Kearns, long a proponent of educational reform,

argues that drastic restructuring in the school system is vital in order to prepare young Americans for competition in an advanced global economy. Says Kearns,

We will not be able to compete in a world-class economy without a world-class workforce. And we cannot have a world-class workforce without world-class schools.<sup>24</sup>

Louis V. Gerstner, of American Express, notes additional problems. He writes,

The [educational] deficiencies go beyond the traditional skills. A great many young jobseekers have other fundamental deficiencies: they lack skills in teamwork, initiative, problem-solving, adaptability, and even simple communication among themselves.<sup>25</sup>

John Correll, of the Air Force magazine, expresses deep concern about the state of affairs in American education today, citing several facts:

1. American high school students take far fewer math and science courses than do their foreign counterparts, and they continue this trend in college;
2. 27,000,000 Americans over the age of 17 are functionally illiterate (deficient in the basic skills of reading, writing, counting and comprehending to a point that hinders their adequate function in today's society); another 45,000,000 are marginally literate (the combination of these figures represents about 42 percent of the nation's adult population);
3. The U.S. is losing its edge in technology, and already has to rely on foreign sources for some critical components and defense systems.<sup>26</sup>

The catalyst for the abundance of research, literature, and dialogue regarding the condition of education in America, was the startling report (as mentioned above),

A Nation at Risk: The Imperative for Educational Reform, released in 1983 by the National Commission on Excellence in Education (NCEE). In its report, the Commission very tersely cautioned that,

The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a nation and a people ... If an unfriendly foreign power had attempted to impose on America the mediocre performance that exists today, we might well have viewed it as an act of war ... As it stands, we have allowed this to happen to ourselves.<sup>27</sup>

It is generally agreed by all critics of the present American educational system that (among other concerns):

1. A high degree of functional illiteracy exists in the U.S. (the inability to perform the simplest tasks of reading, writing, comprehension, and counting necessary to function in today's society);
2. Average achievements of American high school graduates on tests do not match those of their foreign counterparts;
3. American students are deficient in math, English, reading ability, communication skills, civics, and computer literacy (not to mention humanities, arts, and foreign languages);
4. Employers in government, business and industry, and the military spend billions of dollars providing remedial instruction for their employees, finding it necessary to replicate the school system;
5. There is a "dumbing-down", a gross simplification of textbooks, educational publications, presentation of educational materials, and safety manuals.

In A Nation at Risk, the NCEE critically analyzed the curricula in secondary schools as a "curricular smorgasbord", from which students, for the most part, chose the easiest courses. The commission recommended a set of

immediate and long-term reforms aimed at overcoming the crisis in education (Appendix A). Among the suggestions was a call for the strengthening of high school graduation requirements -- a recommendation for more academics in secondary schools. The Commission proposed that high school students should concentrate on what they termed, "The Five New Basics" by completing four years of English, three years of mathematics, 3 years of science, 3 years of social studies, and one-half year of computer science (Appendix A). Virtually all states have adopted this proposal, and have instituted higher graduation requirements.

4. THE PROBLEM IN VOCATIONAL EDUCATION: In response to A Nation at Risk, in 1984, the National Commission on Secondary Vocational Education conducted its own study in order to emphasize the role and function of occupational education at the secondary level. This Commission's ensuing report, The Unfinished Agenda, was based on the premise that, among other concerns, previous studies on the quality of American education had not adequately addressed the purpose of secondary vocational education. In stating its case for vocational education, the Commission concluded that,

Our society is obsessively concerned with higher education as a preparation for work, and downgrades the intrinsic, lifelong value of education. Our secondary schools reflect this obsession by valuing only the college-bound. Such a narrow focus ignores

the fact that approximately 80 percent of the jobs in America do not require a college degree [see figure 2], and most students will not obtain one. This educational myopia that pervades our society produces predictable results.<sup>28</sup>

These include a high percentage of high school dropouts, an increase in the number of students who graduate with inadequate reading and math skills, an abundance of college graduates who face harsh reality upon discovering they hold unmarketable degrees, and the downgrading of secondary vocational education to "second-class status, especially the trade and industrial programs."<sup>29</sup>

Melvin Miller, in his Principles and a Philosophy for Vocational Education, indicates that many high school guidance counselors hold that advising other than college-bound students is irrelevant, and may even be seen as a distraction from the aims of what those counselors take to be the aims of serious education.

In The Unfinished Agenda, the Commission argues that it is wrong to assume

[that] more academics, which may be the best preparation for college, is also the best preparation for life.<sup>30</sup>

The Commission recommends that,

All students, whether college-bound or not, need a mix of both academic and vocational courses and enough elective options to match their interests and learning styles<sup>31</sup> (Appendix B).

5. THE SOUTHERN NEVADA PROBLEM: The problems in the American educational system are not confined to certain

Figure 2

TWENTY FASTEST GROWING OCCUPATIONS,  
1982 - 1995

OCCUPATION	PERCENT OF GROWTH IN EMPLOYMENT
Computer service technicians.....	96.8%
Legal assistants.....	94.3%
Computer systems analysts.....	85.3%
Computer programmers.....	76.9%
Computer operators.....	75.8%
Office machine repairers.....	71.7%
Physical therapy assistants.....	67.8%
Electrical engineers.....	65.3%
Civil engineering technicians.....	63.9%
Peripheral EDP equipment operators.....	63.5%
Insurance clerks, medical.....	62.2%
Electrical and electronic technicians.....	60.7%
Occupational therapists.....	59.8%
Surveyor helpers.....	58.6%
Credit clerks, banking and insurance.....	54.1%
Physical therapists.....	53.6%
Employment interviewers.....	52.5%
Mechanical engineers.....	52.1%
Mechanical engineering technicians.....	51.6%
Compression and injection mold machine operators, plastics.....	50.3%

Source: U.S. Department of Labor, "Employment for 1995", Bureau of Labor Statistics, U.S. Government Printing Office.



geographical areas, nor only to certain ethnic, cultural or social groups. The crisis is widespread across the nation. Southern Nevada is experiencing the effects of mediocrity in the educational system. Three trade union locals in the Las Vegas area, contacted recently, unanimously agreed that they experience a great deal of difficulty in finding individuals coming out of high schools with high enough math and reading skills to enter their apprenticeship programs. The training directors of the three unions generally concurred that their program hopefuls, all of whom are required to have either high school diplomas or General Education Development (GED) certificates, have trouble passing entrance exams of 6th and 7th grade level, even though only a 33 percent is required for a passing grade! The International Brotherhood of Electrical Workers, the Carpenters Union, and the International Union of Operating Engineers, (which includes heavy equipment operators, heavy-duty mechanics, drillers, surveyors, and machinists), find it necessary to either provide their apprenticeship candidates remedial classes in math and reading, or send them to Clark County Community College for refresher [remedial] courses in those subjects. The Culinary Workers Local currently has no training program, but has determined it has become necessary for them to institute one, which will become operational in 1991 in Las Vegas. Advanced technology affects literally every field

of work today, and Nevada's primary industry must keep up with those advances in order to survive in business.

Andy Ozuna, training director for the local Carpenters Union, laments the mediocre quality of education in Southern Nevada.

I've sat on boards and councils to advise educators about the problems in education, but those people [educators] don't listen. Education just isn't happening.<sup>32</sup>

Wayne Grimes, training director for the International Union of Operators says,

I run into people all the time with high school diplomas on which the ink isn't even dry yet, and they can't read them.<sup>33</sup>

Mark Griffith, master electrician, and foreman for a major electrical firm in Southern Nevada, himself a product of the local IBEW union apprenticeship program, believes that there has been a lowering of standards in his union's occupational education program. Griffith recalls that, when he began his apprenticeship six years ago, missing one class bordered on expulsion from the program. Today, as a foreman, he encounters apprentices who think nothing of skipping four weeks of classes in a row, and who incur no disciplinary or expulsive action from the union. The building explosion in Southern Nevada is in dire need of electricians, well-qualified or poorly-qualified. Conscientious, dedicated foremen have the additional responsibility of ensuring quality work. Griffith is finding that he is confronted with another problem: work

attitude. People just do not want to work.

I'm seeing people with really negative attitudes toward work. They want top dollar, but they don't want to do their best to get it. They want to do the least amount of work for the most amount of money. They probably just got by in high school, they're going through their apprenticeship programs, studying just enough to get by, and, on job sites, they're working just enough to get by to get union scale wages.<sup>34</sup>

A Las Vegas landscape contractor admitted that the high school junior he hired part-time could not read a tape measure. When asked to measure a length of PVC pipe, the youth replied, "It's 16 feet, 4 inches, and '3 little marks."<sup>35</sup>

Ward H. Gubler, Assistant Superintendent for Vocational High Schools and Occupational Education in Nevada's Clark County School District, one of the largest school districts in the nation, theorizes that, "Vocational education is the application of academic education."<sup>36</sup> He adds,

A college-prep curriculum has replaced a balanced curriculum [in the secondary schools]. 'More of the same' academic requirements [have been added] without realizing that the impact may be a higher [high school] dropout rate and larger numbers of unskilled and unemployable people joining the workforce.<sup>37</sup>

So we are faced with a paradox: we have acted to raise and improve standards, but the result is that fewer students are being prepared for the world of work. Clearly, something is still wrong; the educational reforms that have been instituted are not what is best for all students. The upshot of this is that there has been a

marked decline in secondary vocational education programs and in enrollments across the nation. In the name of educational improvement, the educational programs that could have the most impact on, and effect in overcoming the skills gap in America's workforce, have been drastically weakened.

Southern Nevada, along with other parts of the country, has experienced a severe decline in the number of vocational education classes offered within the Clark County School District over the last eight years (see figures 3, 4 & 5). Occupational education programming has been drastically slashed from high school curricula, and once cut, it is difficult to get programs reinstated. According to the Nevada Department of Education, Occupational and Continuing Education division, several factors can be listed as causes:

- (1) the reticence of the principal to schedule elective vocational courses;
- (2) the lack of relevance of the occupational curriculum to the particular needs of the community's business and industry;
- (3) the lack of parental support for vocational education as an alternative to "back-to-basics", college-prep courses;
- (4) the lack of adequate information on occupational education from guidance counselors;
- (5) poor quality programs that have not kept pace with advancing technology;
- (6) the elimination of middle school preoccupational programs that had fed the secondary vocational programs;

Figure 3

CLARK COUNTY SCHOOL DISTRICT

## TOTAL SCHOOL DUPLICATED ENROLLMENT\*

School	1979 Total Enrollment	1989 Total Enrollment	Change
Basic	1,922	2,271	+349
Bonanza	2,578	2,691	+113
Boulder City	701	1,022	+321
Chaparral	2,855	2,405	-450
Clark	2,290	2,471	+181
Eldorado	2,053	2,519	+466
Indian Springs	180	160	-20
Las Vegas	1,288	2,243	+955
Moapa	468	636	+168
Rancho	2,476	3,217	+741
Sunset	621	486	-135
Valley	2,351	2,752	+401
Virgin Valley	181	400	+219
Western	2,327	2,512	+185
Totals	<u>22,291</u>	<u>25,785</u>	<u>+3,494</u>

\*Occupational education enrollments are duplicated counts, i.e., if a student is enrolled in typing and accounting, the student is counted in both classes.

Source: Clark County School District, Las Vegas, Nevada

Figure 4

CLARK COUNTY SCHOOL DISTRICT

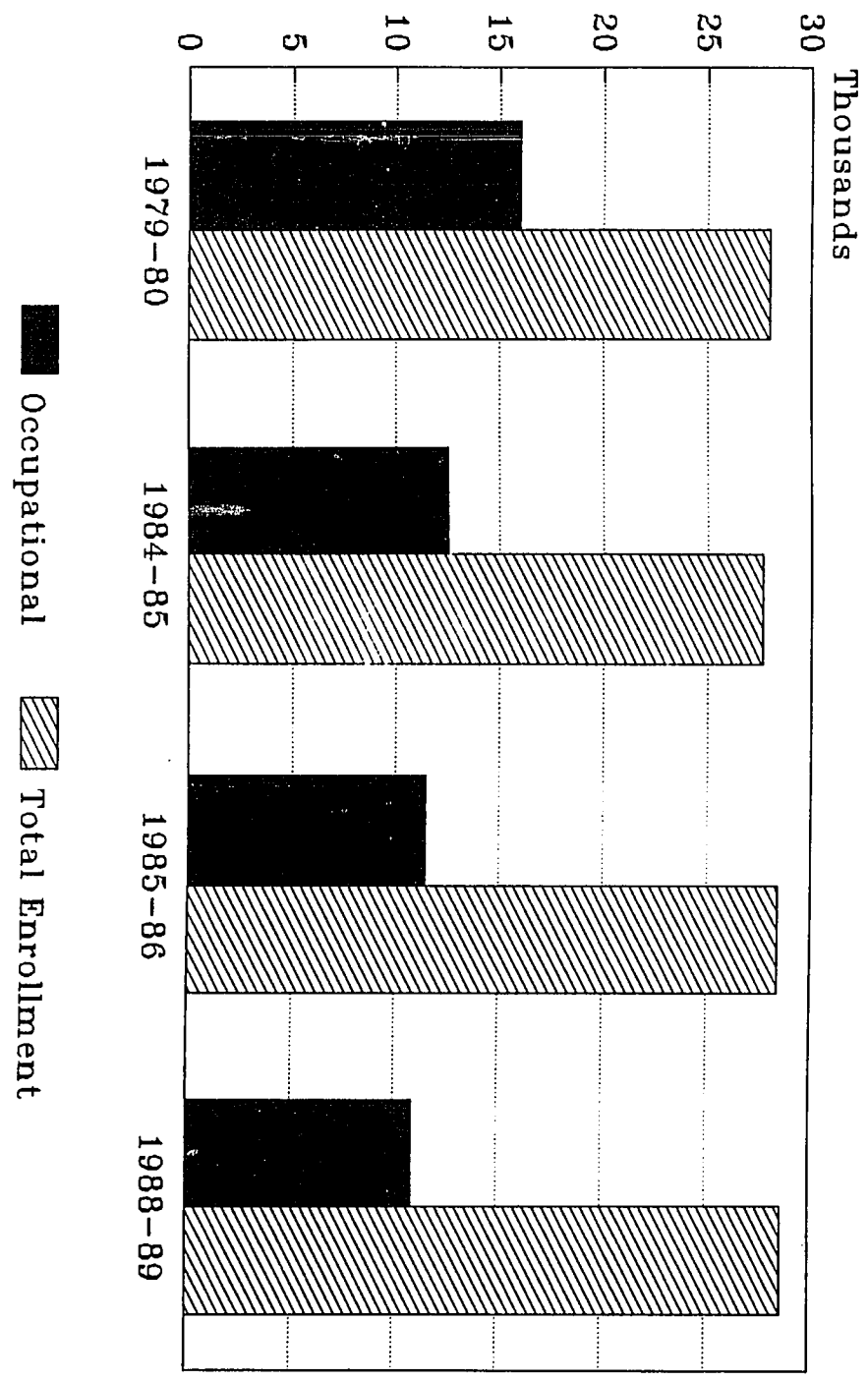
## OCCUPATIONAL EDUCATION ENROLLMENT\*\*

School	1979 Occ Ed Enrollment	1989** Occ Ed Enrollment	Change
Basic	1,642	1,519	-123
Bonanza	2,305	1,458	-847
Boulder City	593	519	-74
Chaparral	2,696	1,387	-1,309
Clark	2,268	1,775	-493
Eldorado	1,776	1,621	-155
Indian Springs	152	70	-82
Las Vegas	1,327	1,275	-52
Moapa	637	515	-122
Rancho	2,715	1,719	-996
Sunset	807	430	-377
Valley	2,182	1,778	-404
Virgin Valley	234	234	0
Western	2,073	1,489	-584
Totals	<u>21,407</u>	<u>15,789</u>	<u>-5,618</u>

\*\*High school enrollment figures include students enrolled in Area Technical Training Center (ATTC). Students attend ATTC for vocational education courses for part of a school day only; they spend the remainder of the day in general education courses at their home schools, i.e., Rancho, Clark, Valley. This report does not include enrollments from Southern Nevada Vocational Technical Center, the only comprehensive vocational high school in Las Vegas.

Figure 5

# CLARK COUNTY SCHOOL DISTRICT ENROLLMENT GRADES 9 - 12



- (7) the stigma attached to vocational programs that suggests the vocational student can not excel scholastically.<sup>38</sup>

The rapidly-expanding, booming economy of Southern Nevada clearly needs a qualified, technically skilled workforce, and that need will continue to grow. According to the Department of Education, less than 16 percent of Nevada's jobs require a college degree, and those that do, are, for the most part, in the legal and medical fields. Nevada, just as every other state in the Union, needs trained and trainable workers. But, as in other states, Nevada's schools are not producing them.



## ENDNOTES

<sup>1</sup>Aerospace Education Foundation. America's Next Crisis: The Shortfall in Technical Manpower. Arlington, VA. 1989.

<sup>2</sup>National Commission on Excellence in Education. A Nation at Risk: The Imperative for Educational Reform. Washington, D.C.: Government Printing Office, April 1983.

<sup>3</sup>Aerospace Education Foundation. America's Next Crisis: The Shortfall in Technical Manpower. Arlington, VA. 1989.

<sup>4</sup>"Educating Our Work Force", Changing Times. April 1988, Vol. 42, #4.

<sup>5</sup>National Assessment of Educational Progress. The Nation's Report Card. Princeton, NJ. 1986.

<sup>6</sup>Ibid.

<sup>7</sup>Ibid.

<sup>8</sup>Craig Walton, Literacy and Critical Thinking: The NAEP Literacy Studies and What We Are Not Teaching About 'Higher Reasoning Skills'. University of Nevada Las Vegas. 1989.

<sup>9</sup>Ibid.

<sup>10</sup>"Human Capital: The Decline of America's Work Force", Business Week. September 19, 1988.

<sup>11</sup>"U.S. Faces Potential Shortage of Engineers", Aviation Week & Space Technology. December 5, 1988.

<sup>12</sup>Aerospace Education Foundation. Lifeline in Danger: An Assessment of the United States Defense Industrial Base. Arlington, VA. 1988.

<sup>13</sup>President George Bush to U.S. governors at an education summit. October, 1989.

<sup>14</sup>Commerce Secretary Mosbacher, testifying before the Senate Committee on Commerce, Science, and Transportation, May 9, 1989.

<sup>15</sup>"Unskilled and Unprepared", Air Force. October, 1989.

<sup>16</sup>"Where the Jobs Are is Where the Skills Aren't", Business Week. September 19, 1988.

<sup>17</sup>Aerospace Education Foundation. America's Next Crisis: The Shortfall in Technical Manpower. Arlington, VA. 1989.

<sup>18</sup>Las Vegas Sun. October 24, 1989.

<sup>19</sup>Los Angeles Times/Washington Post News Service. December 12, 1989.

<sup>20</sup>Ibid.

<sup>21</sup>Las Vegas Sun. October 24, 1989.

<sup>22</sup>"Where the Jobs Are is Where the Skills Aren't", Business Week. September 19, 1989.

<sup>23</sup>"Getting Schools Back On Track", Newsweek. November 11, 1989.

<sup>24</sup>Ibid.

<sup>25</sup>"One Nation, Underqualified", Washington Post. March 20, 1989.

<sup>26</sup>"Unskilled and Unprepared", Air Force. October, 1989.

<sup>27</sup>National Commission on Excellence in Education. A Nation at Risk: The Imperative for Educational Reform. Washington, D.C.: Government Printing Office, April 1983.

<sup>28</sup>National Commission on Secondary Vocational Education. The Unfinished Agenda: The Role of Vocational Education in the High School. The Ohio State University. Columbus, OH. 1984.

<sup>29</sup>Ibid.

<sup>30</sup>Ibid.

<sup>31</sup>Ibid.

<sup>32</sup>Andy Ozuna, interview by author, Las Vegas, Nevada, January 26, 1990.

<sup>33</sup>Wayne Grimes, interview by author, Las Vegas, Nevada, January 29, 1990.

<sup>34</sup>Mark Griffith, interview by author, Las Vegas, Nevada, February 3, 1990.

<sup>35</sup>Yardsmith, interview by author, Las Vegas, Nevada, February 8, 1990.

<sup>36</sup>Ward H. Gubler, interview by author, Las Vegas, Nevada, February 9, 1990.

<sup>37</sup>Ibid.

<sup>38</sup>Nevada's Occupational Education System. "Occupational Education Enrollment Decline", Occupational Education: Nevada's Work Source. Nevada State Department of Instruction. Carson City, NV. 1989.

### III. EVALUATION

This chapter will contain evaluations of the positions and arguments presented in the preceding chapter. Other sources of information and discussion, to which will be added evaluative comments, will be presented under the following headings:

1. Literacy problem;
2. The military's concerns;
3. Government's reaction;
4. Business and industry's concerns;
5. Problems with schools and teachers;
6. Parents;
7. Elementary schools;
8. Reforms;
9. Dropout problem;
10. Vocational education;
11. Ignoring the facts;
12. Southern Nevada crisis;
13. Ethics.

The abundance of literature and documentation produced in the last seven years on the mediocre condition of America's schools paints an extremely grim picture of our educational system. The system is failing the citizens of the United States. And, according to the Air Force Association's Aerospace Education Foundation, the situation is not static; it is worsening. The facts and figures are ominous and frightening -- we are losing our ability to work because of our educational deficiencies. While many of the reports differ somewhat on recommendations for change and solutions to the problems in education, they are

virtually unanimous in their concurrence that an urgency exists in what is being termed a crisis in American schools today. Besides the many studies put out by commissions, business interests, private and public foundations, government agencies, professional associations of scholar-educators, and concerned individuals, national magazines, educational journals, and major newspapers have done their own surveys and published their own reactions to the reports.

It could be argued that there really is no crisis -- that what we actually are seeing is an increase in the numbers of immigrants and minorities entering our schools, and a larger number of them, along with a larger number of women, entering the workforce in the United States today. Therefore, the mixture is larger, and, with world-wide changes, by comparison to the education offered in other countries, we may seem behind those other nations, but, we are making progress toward improving the quality of education, and are not doing so badly after all. However, such an argument would simply be a weak attempt to minimize the gravity of the condition of our educational system as has been concluded by literally all of the current reports on this issue. Thus, there can be no viable argument in favor of minimizing the problems in education, nor any tolerance for adverse criticisms of the threatening severity of reports addressing those problems. America's

schools are in a calamitous state.

1. LITERACY PROBLEM: It has now been seven years since the jolting report A Nation at Risk was published and, according to U.S. Education Secretary Lauro Cavazos, "the reading and writing skills of American students remain dreadfully inadequate."<sup>1</sup> The updated findings of the National Assessment of Educational Progress (NAEP), as revealed in a recent installment of The Nation's Report Card (1988) reveal that,

1. Since 1980, the percentage of the nation's 9-year-olds with the most elementary reading skills declined from 68 percent to 63 percent;
2. 42 percent of all 13-year-olds lack skills needed to read at the next highest level;
3. 58 percent of 17-year-olds cannot read at the "adept" level, which entails the ability to decipher relatively complex information;
4. Less than 5 percent of the nation's 17-year-olds read at the advanced level, which includes the skills needed to understand literary essays, historical documents and materials typically found in the professional and technical work environments [emphasis added].<sup>2</sup>

James Kilpatrick comments that, "The report on writing is not [much] more cheerful."<sup>3</sup> From the same NAEP survey, the conclusion is that levels of writing ability were just about the same in 1988 as they were in 1974. In 1988, 18,000 students in 4th, 8th and 11th grades were given the same writing tests as were administered in 1974. Samples of writing were ranked as unsatisfactory, minimal, adequate and elaborated. One test involved informative writing,

another, persuasive writing, and a third, imaginative writing. On informative writing, students were asked to write a letter of employment application. An unsatisfactory example from an 11th-grader read, in full:

"The kind of job that I don't have to work hard and get paid a good wage." Just 4 percent of the 11th-graders tested were able to write an elaborated letter in which they detailed their qualifications for a job. Not quite two-thirds of the letters were rated adequate. This is an example of an adequate letter:

The kind of job I would like to have,  
is a job around people and I want to  
be constinatly (sic) busy with something.  
The skills I have are very extinsive (sic)  
in English I have had speech, journalism,  
and many English classes ranging from  
Shakesphere (sic) to Stienbeck (sic).  
I have good P.R. skills, and am good  
under pressure.<sup>4</sup>

In the test of persuasive writing, 11th-graders were asked to elaborate a point of view on reducing funds for the space program. Only 1 percent of the students wrote successful papers. Just under 27 percent wrote adequate papers, and the rest flunked. These statistics indicate that achievement levels in reading and writing have either declined, or remained stagnant in the last ten years. As Secretary Cavazos puts it,

Reading and writing are the basic tools of learning, the crux of the academic enterprise. Without solid literacy skills, we can never expect to see improvements in math or science, history or geography. And the costs will be staggering.<sup>5</sup>

The NAEP's findings on math are equally as dismal. For example, only 6 percent of the 11th-graders tested could solve the following multistep math problem:

Christine borrowed \$850 for one year from the Friendly Loan Company. If she paid 12 percent simple interest on the loan, what was the total amount she repaid?

About half of the 17-year-olds still in school could not do much math beyond adding, subtracting, and multiplying with whole numbers; only 12 percent of them could arrange a series of simple fractions with different denominators in the order of size.<sup>6</sup> We simply still are not doing any better. Our educational system remains dreadfully inadequate.

The myriad of studies and reports should appall and alarm all Americans from all sectors, from every segment of our society, and urgently motivate them to drastic action in the immediate quest for major educational reforms in this country. David Kearns, CEO of Xerox, says

there should be a public outcry and overwhelming support for [a] restructuring from the ground up in education.<sup>7</sup>

But, there appears to be a dangerous apathy, a shocking indifference in U.S. citizens toward the problems in education. There are those who demonstrate perfunctory awareness and only token interest in school problems; they take no action. As long as these sentiments persist, we will continue to wallow in mediocrity in our schools.

2. THE MILITARY'S CONCERNS: The branches of the



military are justified in their concern over the shortage of qualified young people to replenish their ranks. Educationally deficient enlistees, and a lack of qualified scientists and engineers weaken the country's defense base and threaten its defense posture. The Armed Forces have traditionally been at the forefront in technical training, hands-on, and on-the-job training. But, increasingly, they are facing the problem of having to accept recruits who do not know how to learn, who cannot think critically, and who lack problem-solving skills. They find their recruits deficient in basic academic skills.

In response, some say that the military goes soft on math. Technology has advanced so much that, to make a complex repair, the mechanic simply has to pull a 'black box' and replace it; he doesn't need to know what the box does nor how to fix it. Complex missiles can guide themselves. But while it is true that modern technology has 'smartened up' machinery, there still remains a critical need for trouble-shooters, problem-solvers, people who can communicate, learn new equipment and procedures, and those who can learn to manage. To compound problems for the Armed Services, the officer corps is not drawing qualified technical professionals. There is such a shortage of scientists and engineers nationwide, that the more lucrative jobs are in the civilian sector. It is difficult for the military to retain competent pilots who

can earn more with TWA or American Airlines; highly-qualified scientists and engineers are not going to stay in the military, or even join to begin with, when they can make thousands more dollars per year with IBM, or other high-tech civilian companies. The military expends millions of dollars on technical training, but with reduction in forces, the brightest and best leave the military for civilian jobs after their first three or four years of service, resulting in the expenditure of funds anew to train the next group of recruits. The military is forced to compete with business, industry, and universities, with their higher salaries and lucrative benefits, for the dwindling pool of qualified technicians and technical professionals.

In addition to the concern over the shortage of qualified personnel, branches of the military must be concerned about the present capabilities of facing a national emergency, and their abilities to mobilize the defense industrial base. If a Pearl Harbor occurred today, the underqualified, undereducated military forces may just not be able to answer the nation's call.

Positive and successful approaches evidencing the military's cooperation with and support of American education are the Reserve Officer Training Corps (ROTC) programs at both the secondary and postsecondary levels, and the Civil Air Patrol (CAP) units in junior and senior

high schools. Students participating in these programs develop self-discipline, leadership skills, competence, citizenship, maturity, and creativity, among other attributes. In an innovative step to motivate youths to stay in school, the Navy has 'lent' one of its brightest young fighter pilots to education. In the last two years, Lt. J.G. Drew Brown has traveled the country and addressed students in hundreds of schools, encouraging and challenging young people to complete their educations, and work toward a drug-free society. The lieutenant, who is black, and was raised in Harlem, impresses upon students the fact that one can rise to greatness from a deprived background. His dynamic presentation is directed at all students, but appeals particularly to young blacks and other minorities.

3. GOVERNMENT'S REACTION: In his State of the Union address in January, 1990, President Bush expressed the desire to bring American students to world-leading status in math, science and technology by the turn of the century. He spelled out these goals for education:

1. By the year 2000, every child must start school ready to learn;
2. The United States must increase the high school graduation rate to no less than 90 percent;
3. In critical subjects -- at the 4th, 8th, and 12th grades -- we must assess our students' performance;
4. By the year 2000, U.S. students must be first in the world in math and science achievement;

5. Every American adult must be a literate worker and citizen; and,
6. Every school must offer the kind of disciplined environment that makes it possible for our kids to learn -- and every school in America must be drug-free.<sup>8</sup>

The rhetoric may be quite eloquent, and fairly convincing to some, but, clearly, these are generalities, not concrete, forceful solutions to the endangering problems in education. The 2 percent increase (which is what President Bush has designated), of the next federal budget is not going to buy much for education. The budget allotment simply does not match the goals. Furthermore, there is no indication that the President has met with teachers in an effort to get their views on the educational system, nor to spur them on to the pursuance of excellence in their fields. The President seems to feel that most of the dollars to fund education should come (as has always been the case) from state and local sources rather than from the federal government's budget. In fact, money is not the whole problem -- there are the moral issues of parental involvement in education, quality and equality in the schools, adequately-qualified teachers, school dropout rate, and the eradication of illiteracy.

The bulk of the 2 percent increase of funds for education in the next fiscal year has been earmarked for programs such as Headstart, which focuses on deprived and underprivileged preschoolers. There is no doubt that

quality early learning experiences such as Headstart programs are highly beneficial to children -- they can stimulate effective learning for the rest of children's lives. Preschool very positively influences behavior, attitudes, and grades (see figure 6). John Chaney, basketball coach at Temple University, says that college education should begin at the lowest end: it should start in kindergarten. Indeed, educational reform should start at the pre-kindergarten and kindergarten age, but, both reform, and monies to fund it, should not stop there.

By contrast, as a counter to President Bush's reluctance to request more federal funds for education, it should be noted that federal government has a heavy responsibility in education. In his 1983 report, High School: A Report on Secondary Education in America, Ernest Boyer writes,

In past decades, federal support of the nation's public schools has been critically important in the move toward quality and equality in education.<sup>9</sup>

He adds that the federal government should not run schools, but,

public education presents a serious national challenge, and there should be a national response.<sup>10</sup>

It is a fact that federal presence and funding in education have been longstanding, important, and useful. In addition to the Smith-Hughes Act, the National Defense Education Act, the National Vocational Education Act, and

FIGURE 6

LONG-TERM EFFECTS OF PRESCHOOL EDUCATION

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	<u>Preschool</u>	<u>No Preschool</u>
1. Employed:	59%	32%
2. High school graduates:	67%	49%
3. College or vocational training:	38%	21%
4. Ever detained or arrested:	31%	21%
5. Teen pregnancies per 1000 girls:	64	117
6. Functional competence:	24.6%	21.8%
7. Percentage of years of required special education:	16%	28%

Source: Perry Elementary School, Ypsilanti, Michigan

the Carl Perkins Act, (to name a few), the federal government has provided funds for other major successful educational reforms. In the 1860s, the Morrill Act set up a system of land-grant universities in virtually all states, which, still today, provides education and services, especially in agriculture and the mechanical arts, and, now, instruction in areas of high technology. A major creation of the federal government in the area of education was the establishment of the Servicemen's Readjustment Act of 1944. Commonly known as the G.I. Bill of Rights, this bill provided funds for educational opportunities, plus vocational or on-the-job training. More than 7,800,000 veterans participated in G.I. Bill education and training programs, which helped to prevent the complete disruption of American economic life after World War II, and helped smooth the transition from war to peace.

4. BUSINESS AND INDUSTRY'S CONCERNS: Business and industries have substantial monetary interests in the education of their employees. They expect that their employees will come to them with an ability to learn; they expect that the school system will have prepared people to be trained in the jobs for which they are hired.

Traditionally, one of the goals of public education has been the creation of disciplined workers (and consumers) who would be prepared to join the American workforce. But

the school system is falling far short of that goal. Herein lies a mismatch: young people coming out of today's high schools simply do not have the skills necessary to enter adult life and make a living for themselves. They are unprepared for today's workforce.

Business and industry have often been accused of having selfish motives in their interests in education; they have been charged with being interested only in profit. It has been argued that their remedial programs are geared to meet company needs, and that they don't have time to consider the needs of the individual. Well, business and industry have to be concerned about remaining profitable. They are justified in expecting that employees will come to them equipped with the basic skills of reading, writing, and math. They should be able to expect employees to come to them knowing how to learn the job, how to work out and solve problems; business and industry should not be expected to replicate the school system. As it turns out, building and keeping a quality workforce is the single most important challenge facing U.S. companies in the decade we have just entered. The nation's growing number of small businesses is most adversely affected by the shortage of skilled labor. They have neither the funds nor the resources to provide remedial instruction to employees as can large companies, so, for the most part, they have to take whatever workers they can get.



American companies have reason to be concerned. They are the recipients of the deficient products of the American school system. Bill Daggett, innovative Superintendent of the Vocational Division of the New York Education Department has this to say:

1. One in five high schoolers drops out of school;
2. One in five graduates has no occupational training;
3. One in five goes on to college, taking 3 to 4 remedial courses in the first year, then drops out.<sup>11</sup>

This makes 3 out of 5 unprepared and unskilled for the world of work. Countless high schoolers who do stay in school and graduate are unemployable when they graduate. No wonder business and industry, along with the military are concerned about education in America. The public school system is producing human casualties, not constructive human beings.

Without doubt, the decline in the educational system in the United States is adversely affecting the economy of the country. When businesses must expend dollars to provide remedial reading, writing and math sessions -- skills that should have been mastered in the schools -- before beginning on-the-job training, business profits are markedly affected. Businesses and industries have relied on the schools to prepare young Americans for the world of work, and it is not being done. So, a disparity continues: business and industry say schools are not doing well

because they fail to adequately prepare students for the labor force. Yet, educators generally feel that they are doing a good job of teaching -- as good a job as they think should be expected of them.

By comparison, European and Far Eastern countries do not incur the problems of providing basic skills to their new employees. Students in those nations come to the workforce well-armed with basic skills; they come prepared for job training. This gives foreign countries the first edge on U.S. technology and production. The U.S. has been the world leader in global production, commerce, and marketing, but our educational weaknesses are contributing to the crippling of this nation's economy. A prime example is the semi-conductor industry. Alan Abelson, editor of Barron's, the weekly Dow Jones financial publication said, on a recent newscast, that we have already lost that race, and lost badly. The computer chip is singularly the most important product of modern technology, and the leaders in that industry are the Japanese. Furthermore, Detroit and Pittsburgh have ceased to be the world's capitals in automobile and steel manufacturing (respectively) -- the Germans and the Japanese have taken over. If American industries must continue to expend the monies they do now for remediating reading, writing, and counting skills in their employees, while their foreign competitors continue to expend all their resources in doing business, by the

year 2000, the United States will be a long way out of the running in the global marketplace.

Many companies have expressed the desire to cooperate with educators in raising the quality of education in the nation's schools. For example, America West Airlines strongly supports vocational education in both high schools and colleges, reinforcing a commitment to the education and training of their future employees. In Phoenix, Arizona, that airline is working with high schools and Chandler-Gilbert Community College Center, encouraging careers in the rapidly advancing high tech aviation field. Companies such as Honeywell, Rockwell International, and Hewlett-Packard are opening up their facilities and releasing their personnel to work with the schools. Computer manufacturing companies, such as IBM, Apple, Tandy, and Commodore feel they can play a major role in focusing on the illiteracy problem by installing computers in schools. Their aim is to help make the routine tasks of learning interesting by appealing to the 'instant-fun' inclinations of today's youth. While their motives would seem to be altruistic at first blush, the computer companies are looking for a new profit center as well. Altruism can translate into exploitation very easily. Most educators take a critical view of business and industry's involvement in the academic realm -- they seem to consider such overtures as encroachment on their turf.

Education and culture are the reflection of a society, a manifestation of its place in a civilized world. Today, we live in a global, interconnected world. Because of our mediocre school system, we are losing our footing in that world. Furthermore, we live in a generation that has greater access to information than any other in previous history: newspapers, television, magazines for literally every special interest group, libraries, and vast computer data banks. Yet, we are not utilizing those available assets to the fullest. In America, it has traditionally been the theory that education is a way out of poverty -- by becoming educated, one can improve oneself, and rise out of poverty. However, at the rate our educational system is going, by not providing students with marketable job skills, it appears poverty is being perpetuated: it may increase! The nation's demographics are changing -- the middle class is shrinking, and far more people are slipping into the lower class, which has less buying power -- another threat to the U.S. economy. The decrease in the numbers of middle class Americans poses a large threat to this nation. In the United States, the middle class has been the backbone, the stability, the nation's strength, the symbol of accomplishment, and the major source of tax dollars. If their numbers decline, the results will be frightening.

5. PROBLEMS WITH SCHOOLS AND TEACHERS: In America

today, schools (and school teachers) are expected to do many things: resolve racial conflict and build an integrated society; inspire patriotism and good citizenship; provide values, aspirations, and a sense of identity to disadvantaged children; offer various forms of recreation and mass entertainment (football games, bands, choruses, majorettes, etc.); reduce conflict in society by teaching children to get along well with others and to adjust to group living; reduce the highway accident toll by teaching students to be good drivers; fight disease and poor health through physical education, health training, and even medical treatment; eliminate unemployment and poverty by teaching job skills; end malnutrition and hunger through school lunch and milk programs; produce scientists and other technicians to continue America's progress in science and technology; fight drug abuse, teenage pregnancy and sex-related diseases; act as custodians for teenagers who have no interest in education but whom we do not permit either to work or to roam the streets unsupervised; and prepare children to enter the world of work when they become of age. Says the National Commission on Secondary Vocational Education,

We Americans expect much of our schools. It is not surprising in a pluralistic society such as ours, that there are different views regarding what the schools are to achieve, how well they are doing, and the appropriateness of their relative emphases and likely future directions.<sup>12</sup>

But, what has gone wrong with the school system? Basically, the problems are the result of the unwillingness of the nation's presidents, legislatures and government officials at all levels, educators, parents, and the society as a whole, to aggressively confront the crisis in education with funding and reforms that would raise the quality of education in the United States to a level necessary for excellence. There is an absence of a strong general, uniform, agreed-upon master plan for education. So, we are wasting our most valuable resources -- our human resources.

A very large measure of blame for the mediocrity in the American school system must be laid at the doorstep of the education establishment itself. First of all, there is a shortage of teachers -- it is not so much a problem of numbers, it is a problem of quality. The brightest and best of our college graduates are not going into the teaching; the least qualified and cheapest are. The shortage of teachers is relative to the standards, and, for the most part, the standards for entering the teaching profession are very low. By and large, qualifying exams for applicants for teacher certification are on 11th-grade high school level; exams in some states are as low as 6th and 7th grade level!<sup>13</sup> Many school districts are issuing temporary emergency certifications in order to meet teacher shortages, and many are assigning teachers to classes out

of their fields because they can not find qualified people in those fields. Thus, school districts are using some substandard, unqualified teachers who water down material and adjust curriculum to their own minimal level of comprehension. This is not to deny that there are many excellent teachers in the American school system who are fully qualified and who are doing well as teachers. Their students compete, win National Merit Scholarships, and are admitted to America's best colleges and universities. Their standards of excellence and their strategies for success could serve as models to be emulated.

The applicants for teacher certification who are coming out of our colleges and universities generally have more "methods" and educational psychology courses than course content classes. In contrast, in foreign countries, prospective teachers take up to six years in preparation of the subjects they plan to teach. Their emphasis is on what to teach, not so much on how to teach it. One of the recommendations of the National Commission on Excellence in Education called for teachers to become better trained in their fields, but there has not been an overwhelming compliance with this on the part of either educators or administrators. Another paradox occurs: private businesses and industries, who would be willing to lend their highly trained technicians, scientists,

mathematicians, and engineers to the education sector are thwarted in their attempts to get their experts certified to teach. Boards of Education do not want to license or certify people who have not had teaching methods, or 'how-to-teach' training.

Boards of Education, school administrators, teachers, education unions and associations simply do not like change; for the most part, they do not want change, and, they are unwilling to heed criticism. The education establishment becomes defensive when approached by other sectors, apprehensive toward what it considers to be intervention and interference. The education sector seems to be resistant toward attempts by those who seek to assist in finding solutions to the problems of quality in the education system. State Departments of Instruction balk at restructuring and renovating licensure procedures for teachers; administrators and teachers reject teacher competency tests, merit raises for outstanding teachers, and peer reviews. Often, they are opposed to longer school days and increases in length of school terms. Education associations and unions appear to have, as a priority, a commitment to maintain the status quo -- they are unwilling to face the failures of the school system head-on and support major restructuring. In the public school system, the goals and attitudes seem to be, 'Don't rock the boat.'

One of the biggest reasons for the shortage of teachers



is low salaries. The reluctance of citizens and legislatures to raise the salaries of teachers seems to directly reflect their complacent attitude toward quality education. Consequently, the best teachers, particularly in sciences and mathematics, soon leave education for higher paying positions.

But why should educators' salaries be raised when teachers are so resistant to change, when they reject attempted efforts at quality control in education, when the children leaving their classrooms are so poorly educated, and when they refuse to assume their responsibility for the mediocrity of the American school system? It can be argued that, until members of the education sector show a willingness to accept constructive criticism, admit to a portion of liability for the critical condition of the school system, assume responsibility for improving their professionalism, and strive for improvement in the quality in their teaching, tax dollars for teacher raises are a waste of money! We seem to be in a vicious circle -- "no money until you change"; "no change until the extra money arrives."

Educational reform will be difficult to effect until the mindsets of the education establishment, its governing agencies, and the general public, are altered. School teachers must come to the classrooms better trained, more knowledgeable, and better qualified; State legislatures

must become infused with a deep concern for the quality of education in their states, and get involved in monitoring the policies of their Departments of Instruction in the areas of teacher certification and teacher qualifications; and, Americans must get actively involved in the cause for better schooling for their children. Mutually agreed-upon goals and expectations in education could be set up, and improvements, including proportionate pay hikes, could be put into phases as a first step in school reform.

6. PARENTS: The decay in American home life is a prime candidate for blame in the failure of the learning system. The family contexts in which children live affect the ways in which they react in school. Family structures are quite different from what they were in the past. Besides one-parent families, there are 'reconstituted' families with remarried parents, families with foster and/or adopted children, grandparents as primary caregivers, along with the so-called typical family of father, mother, and children. Many of the things expected of schools are the responsibilities and duties of the parents. Traditional values, ethics, morality, good citizenship, good habits, and social skills are things that should be learned at home, and then reinforced in school. Schools do have some of the hardest-working people, but no amount of teaching can overcome the lack of motivation and the apathy that is evident in school children, which is instilled in them by

their families, their environments, their cultures, and the American society as a whole.

The economy and culture of the United States has led to a decline in the amount of time parents spend with their children -- not just clock hours, but quality time. Many homes are greatly stressed by unemployment and a lack of economic resources. Stressful home settings generate troubled children. And, troubled children in troubled schools mean trouble for the community, the society, and the nation as a whole.

Parents just do not seem to find the time to get involved with their children's schooling. A great many parents are too tired (or disinterested) to worry or care about the education of their children. No one is reading to Johnny, nor seeing that Mary completes her school homework. The occurrences of single-parent families, and the need for two family incomes have increased in the last two decades which, in turn, have increased the numbers of 'latchkey' children, and diminished parent-child communication. Yet, sadly, if parents would spend more time with their children and their schoolwork, a great many of them could not be of help -- the parents are the products of the same mediocre school system.

Communities and churches had been involved in teaching and nurturing values, but this no longer seems to be the case. Communities are overworked in solving the problems

of social issues -- fighting crime, drugs, gangs, homelessness, to mention a few, and churches are struggling to maintain and cultivate membership.

In many cases, parents have lost control, and can no longer mold and shape their children as parents once did. We have become a materialistic, self-centered, self-serving, and unconcerned nation. Our society has created a "lifestyle" which promotes being 'cool', fashionable, status-conscious, consumer-aware, leisure-oriented, and we're instilling these shallow, materialistic priorities in our children. Students are overcome by television, modern music, designer clothes, designer everything, drugs, sex, social life, alcohol, gangs, and rebellion. The lowest item on their list of priorities is their own education. Learning should be the top priority of young people -- and of their parents! It should supersede the importance of Little League, Pop Warner football, dance lessons, and video games. When Americans become enthusiastic about education, their children will become enthusiastic. We need to reassess our culture and reorder our priorities. Families have not adjusted to their responsibilities to their children in today's world. In short, parents are not 'parenting.'

Much of parental involvement in education is laced with negativism. The call for an increase in the number of school days generally is met with objection -- there is no

public outcry for an extended school year, nor for longer school days. On the contrary, most parents even object to the concept of year-round school agendas, and such agendas do not increase the number of days in attendance. Strong parental pressures dictate that school children be moved along and promoted to the next highest grade, no matter how much (or how little) they have learned.

In dozens of school districts across the nation, parental 'involvement' in education has taken the form of textbook and literature censure and editing. For instance,

In the 1980s, the reading material restricted, altered, or removed [from elementary and secondary schools] included Jaws, by Peter Benchley, A Farewell to Arms, by Ernest Hemingway, Webster's Collegiate Dictionary, Sports Illustrated, and Brave New World, by Aldous Huxley.<sup>14</sup>

Additionally, classic works by Mark Twain, and those of Judy Blume, author of books focusing on problems of youth, have been banned. Biology books have been attacked for presenting Darwin's theory of evolution; literature books have been attacked for what some consider offensive words; social studies books presenting women's and racial issues have been labeled 'communist'. Conservative groups have attacked health course books dealing with sexual issues as anti-family and immoral. Sex education classes have always met with opposition by vocal adults. The 'dumbing-down' of textbooks includes editing and/or omitting what some consider to be 'controversial' subjects, to a point where

textbook content offends no one, resulting in lifeless, bland material.

Recently, several major newspapers have reported that membership is declining in Parent Teacher Associations (PTA'S) in most large cities in the nation. Anne Lynch, national president of PTA, recently indicated that a great deal of parental support for education is limited to fundraising activities. She terms this "conscience-salving" for parents. In an age in which it is gravely important for parents to become more involved in the education of their children, membership is dropping in parent-school organizations.

7. ELEMENTARY SCHOOLS: Most studies of the problems in the American education system concentrate on secondary schooling -- the high school years. Yet, it is glaringly apparent that the crisis also exists at the low end -- in the elementary grades. From kindergarten on, our students are not getting a quality education. If children are not doing well in high school it is due, in large measure, to the fact that they are not getting a sound and strong foundation in the basics (reading, writing, social sciences, and math) in grade school. In European and Far Eastern countries, quadratic equations are being taught to and learned by 14-year-olds, whereas, in the U.S., children of that age are still doing addition, subtraction, multiplication, division, and having difficulty with

decimals and fractions. Kie Ho, a research scientist from Indonesia (and now an American citizen), recently passed the following problems on to 15 children under the age of 8 years:

1. Five girls and three boys reached the top of Hurricane Mountain. How many children reached the top together?
2. Mark, Theo and Jake are brothers. Theo was born second. Mark is the youngest. Who is the oldest?

The children solved the problems handily. But the shocking revelation is that these problems did not come from 2nd-grade textbooks; they are from a 5th-grade math book which is being used in one of California's most prestigious public schools!<sup>15</sup> The outgoing governor of New Jersey, Thomas Kean, theorizes that scholastic expectations need not be lowered. He comments, "If you raise the bar and give them something to shoot for, kids will raise themselves up to reach for it."<sup>16</sup> The three R's -- reading, communication with the written word, and arithmetic computations, are the educational basics necessary for survival in our world. They must be mastered in children's early school years, laying the foundation for future learning and for success in life.

8. REFORMS: Many of the recommendations for educational reform from the numerous reports and studies carry remarkable similarities: higher standards for grade promotion and graduation, a more rigorous curriculum, teachers better trained in their fields, increased class

time, and better textbooks. The reforms in education that have taken place seem to be those that are the cheapest to implement. We are treating a bullet hole with the application of a band-aid. We are doctoring the symptoms, but are not curing the illness.

As mentioned earlier, the National Commission on Excellence in Education included in their report, A Nation at Risk, a slate of recommendations for reform in the nation's school systems. Of the many recommendations suggested by the NCEE (Appendix A), the return to fundamentals, the concentration on the basics, and the mandate to increase high school graduation requirements were the only ones to have been largely adopted and implemented, (and those have had some devastating effects, as we shall see). The other suggestions have sputtered and died like the flames of candles with bad wicks. For instance, the State of North Carolina briefly experimented with an extension of the number of days in the school year, but soon abandoned the program because of a lack of support on the part of all involved. When the Commission recommended an increase in the offering of foreign languages, Arizona was the only State to seriously follow the suggestion. Educators, their groups and unions have been highly supportive of the Commission's recommendations for higher salaries, but, as has already been pointed out, they have strongly rejected other recommendations: they



have resisted merit pay for teachers, the concept of career ladders for teachers, and are opposed to any teacher competency testing. It appears that educators are imparting the attitude, 'We've done enough by doing our part to increase basics and raise high school graduation standards; now, leave us alone!'

Schools today prepare everyone for college, whether they plan to go or not. The philosophy of the new reforms is to prepare all students with an academic track, to groom all students for entrance into baccalaureate degree programs. But, statistics show that, of those who do go on to college, only 20 percent will complete degrees. The others, as Ward Gubler, of Nevada's Clark County School District puts it,

after having wandered aimlessly through  
general education tracks, really will  
not be prepared for anything.<sup>17</sup>

There is little to no preparation for the world of work.

But, what has been gained by increasing course offerings in English, math, science, social sciences, and computer literacy? Indeed, 'back to basics' curricula are highly beneficial to the college-bound. However, 'more of the same' has contributed to a drastic decline in the number of vocational education courses offered at the secondary level, substantially raised the numbers of at-risk students, and markedly increased the numbers of high school dropouts.

For one thing, most high schoolers are not going to go on to college; they will either be joining the workforce, or be unemployable. Many would prefer to follow an occupational education track rather than a college-preparatory track, but their opportunities for learning marketable skills are strictly limited because the courses are not available to them. For another, the at-risk students feel that they are forced to go to school until (in most states) the age of sixteen. They know they are not being prepared for secure, decent-paying jobs so they have little commitment to learning academic subjects because they are not college-bound. Additional math, English, and science courses are not going to benefit them as much as would occupational courses. This state of affairs makes life miserable both for them and for their teachers. These students, along with the dropouts, are not all failing their classes -- many simply show more interest in, or have more aptitude for technical courses. So, they should be offered an educational track that is not strictly a college-prep curriculum. But, when occupational programs are not available, the result is that most students are not getting an equal opportunity in education. This is not to deny that many students reach high school so academically unprepared; it is almost a given that they will fail classes at the secondary level.

9. DROPOUT PROBLEM: The nation pays a terrible price

when young people do not receive an adequate education because they drop out of school. The odds are overwhelmingly against dropouts getting good jobs; thus, many turn to crime. Consequently, the unemployment rate is high, and jails are full of illiterates, adding to the costs of welfare and other social services. If at-risk students were taught a saleable skill, the crime rate would be reduced. But, legislators, policymakers, and educators don't see it this way. Beyond the dollar figures are losses in ideas, services, and other contributions that educated people can make to a society.

Kids drop out of school for many reasons: no motivation from parents and teachers, behavior problems that get them suspended, drug and/or alcohol abuse, boredom, and, a most recent reason, fear of gangs and violence. Lack of self-esteem, which may be attributed to frustration over poor grades, fear of failure, and fear of alienation prompt many youngsters to drop out of school. Ironically, high school dropouts regain a measure of their self-esteem after quitting school!<sup>18</sup> So, 'pushout' may be a more accurate term than 'dropout' for students leaving school without graduating. The implementation of the NCEE's recommendations for 'more of the same', more English, math, science, and social studies, is forcing countless young people to quit school because they are frustrated by what Ward Gubler calls the 'stacking effect':

a student who fails sophomore English must retake that course in the junior year along with junior English and his other required subjects. A student who gets poor grades in a first year math course must go on to the second and third year math courses. With a poor math background, he's doomed to failure in math by the third year. Because of the stacking up of basics, the student is not able to enroll in vocational education courses that may interest him or for which he feels he has an aptitude, thwarting his attempt to develop a possible talent.<sup>19</sup>

10. VOCATIONAL EDUCATION: We need to teach all children the skills necessary to live, whether it is to be a mechanic, a scholar, an administrator, or a professional -- as well as schooling them in the fundamentals of reading, writing and counting. But with the emphasis on more of what the NCEE terms 'basics', and the deletion of occupational education courses from high school curricula, a great many young people are being denied training for the world of work. The educational system is neglecting a vast majority of American students!

Vocational education is also a basic -- we should present the thesis that career education is also a basic and fundamental goal of education ... Learning about and preparing for work is a prerequisite to a personally satisfying and socially productive adult life ... [we] should not focus solely on the study of conventional, academic subject matter at the expense of all other important goals.<sup>20</sup>

As early as 1914 it was recognized that vocational

education should be an important part of the high school curriculum. In that year, Samuel Gompers, prominent industrialist and then-president of the American Federation of Labor (AFL) addressed the National Society for the Promotion of Industrial Education (NSPIE), after just having attended an AFL convention and stated,

What sort of education do you think most interested the delegates to [that] convention? It was not that education which deals with the syntax of dead languages; it was not even that education which deals with the development of the fine arts, or with the systematic teaching of the sciences ... the sort of education which was under consideration was industrial education.<sup>21</sup>

Then, in 1916, distinguished philosopher, psychologist and educational reformer, John Dewey focused his interest on vocational education by theorizing that education must begin with experience and relate to students' needs. He wrote,

We must make each one of our schools an embryonic community life, active with types of occupations that reflect the life of the larger society and permeated with the spirit of art, history, and science.<sup>22</sup>

Dewey stressed student-centered rather than subject-centered schools, education through activity rather than merely formal learning, and vocational or occupational education, not just the isolated, intellectual mastery of traditional subjects. He wanted to see schools active with occupations and concerned with the values of the surrounding society.

At this point, it can be argued that our educational system, by increasing and concentrating primarily on basics and decreasing occupational education, is taking a giant step backward! In the early 1900s, schools were involved with liberal education, offering virtually no training for those who were not college-bound; the needs of the majority of students were not being met. Dewey argued that the curse of traditional education was its aristocratic character and its isolation from life. Today, the needs of the majority of students are not being met. Are we not falling back into the old rut?

In a recent interview with the Washington Post, Frank Mensel, an official with the Association of Community College Trustees and the American Association of Junior and Community Colleges, supported vocational education when he stated,

Preparation of people in technical fields ought to get just as much emphasis as students engaged in college preparation. Unfortunately, education has a history of treating vocational education as a stepchild or a dumping ground.<sup>23</sup>

The Center for Research in Vocational Education has released a number of statistics in support of strong vocational education programs at the secondary level. Their research has shown that:

1. Students in occupational education:

- a. earn 21 percent more money four years after graduation than graduates without vocational training;

- b. experience 6 percent less unemployment;
- c. learn how to learn a skill;
- d. spend more time in the labor force;
- e. enter post-secondary education programs in the same numbers as students in general education;
- f. experience lower unemployment rates;
- g. learn positive work values and attitudes; and,
- h. are more goal oriented than students in general education.

2. Occupational education:

- a. motivates students to learn real world skills;
- b. provides practical hands-on experiences;
- c. reinforces mathematics, science, and English skills by demonstrating the application of basic skills to technical jobs;
- d. supports local, regional, state, and national economic development and competitiveness by providing a trained and skilled workforce.

3. General work skills and educational services provided students through occupational education:

- a. students learn appropriate interview skills;
- b. students practice human relations skills;
- c. students learn appropriate dress and grooming for the job;
- d. students learn to comply with work rules;
- e. students demonstrate the ability to work cooperatively with other employees on the job;
- f. students demonstrate the ability to receive and follow directions from a supervisor;
- g. students demonstrate application of work values and employee traits such as initiative, dependability, honesty, loyalty, and sense of responsibility;
- h. students exhibit self-esteem, confidence, and self-discipline through learning and applying specific job skills.<sup>24</sup>

11. IGNORING THE FACTS: So, why do we ignore these facts? Despite both these earlier and current attitudes advocating a more positive policy toward occupational training, the traditional and negative mindset prevails. Vocational education has traditionally been regarded as a 'catch-all' for students not brainy enough to excel in

academic college-prep courses. Typically, the children of lower and middle-class, blue-collar workers were expected to enroll in vocational education classes, while the children of upper-class, white-collar workers and professionals were considered to be 'college material'. Thus, there has been an unfair stigma attached to vocational education which has been bred and nourished by an American culture that has come to desire "higher status" for all, and therefore, to disdain manual labor. This flawed concept has come to be dominant in American society. It is flawed because, clearly, occupational education offers the integration of academic skills with one's own aptitudes and personally-chosen course goals in the world of work. For instance, how can one become a successful paralegal without excellent English and communication skills? How can one become a skilled electronics technician without adequate science and math skills? How can a house builder calculate square footage, or an electrician figure loads on circuits without sound math backgrounds? To reiterate, vocational education is the application, the fruitful use of academic education.

12. SOUTHERN NEVADA CRISIS: It has been noted that inadequacies in the schooling of children are pandemic -- all across America, children are being deprived of a quality education. The situation in Southern Nevada can truly be termed chaotic. Due to the rapid expansion and



the population explosion (4,000 new residents per month), schools are overcrowded; many see-saw between standard and double sessions, between traditional and year-round term schedules. Furthermore, children are bounced from school to school as a result of everchanging rezoning practices. Such upheavals adversely affect teaching and learning.

The newest report from the Nevada Board of Education indicates that, as is true in other parts of the country, an alarming number of Nevada's high school students is dropping out of school. According to figures, about 10 percent of students drop out of secondary school per year. The national average of dropouts is close to 25 percent, but, according to the latest statistics, if the current rate continues, Nevada's percentage will climb to over 40 percent! In the 1988-89 school year, 4,780 high school students dropped out of school in Nevada. It is conservatively estimated that, over the course of the working lives of that number of young people, the cost to society will exceed \$124 million in loss of tax revenue, increased welfare costs, and reduced personal income.<sup>25</sup> The Assistant Superintendent for Vocational Education in the Clark County School District, Ward Gubler, predicts that the number of dropouts will continue to mount unless occupational education programs and courses are reinstated. Much of the discussion regarding dropouts has emphasized academic failure, or lack of home support as causes and

reasons to leave school. But, one must ask whether or how many of these young people would stay in school, do well, and graduate if they were involved in vocational education programs that would prepare them for a career to which they are suited by natural aptitude.

As is evidenced by statistics (see figures 3, 4 & 5), and borne out by the observations of those involved in vocational education in the Las Vegas area (in particular, educators within the school district and those from the College of Education at the University of Nevada Las Vegas), the local school district is not supportive of occupational education. In fact, district officials actually discourage occupational training because they say it costs too much. But, is the cost more than the \$124 million predicted to be lost due to the latest number of Nevada's high school dropouts? Unlike some other states, Nevada has no categorical funding for vocational education, so each district in this state must financially support such programs, curricula, and needed equipment from funds allocated by the legislature, but the districts are not willing to do it.

The U.S. spends almost \$200 billion per year on elementary and secondary schools. Factoring out the funds used for primary education, most of that \$200 billion is being spent on the college-bound. According to Ward Gubler, only \$1.5 billion is spent on secondary

occupational education.<sup>26</sup> Unlike Japan and European countries, this nation is not getting its money's worth. We lose the youth; consequently, we lack the workforce.

Interestingly, school counselors were originally assigned to school faculties with the titles of 'vocational counselors', but today, they do little or nothing to encourage youngsters to follow a vocational education curriculum. They concentrate their advising activities on the college-bound -- dispensing scholarship material, explaining college entrance requirements, and encouraging young people to enter baccalaureate programs. The rest of the time they spend dealing with the problem children. The majority of high school students just don't get academic counseling.

Vocational education courses have been sacrificed in favor of more college-prep English, math and science courses, and that, as has been noted, has contributed to the high secondary school dropout rate in Nevada. In addition, in curtailing and discouraging the offerings of vocational education programs, the school district not only fails to prepare students for entry into the Southern Nevada workforce, it also fails local industries when high school graduates are not equipped with the skills to enter the job market.

When Nevada raised the number of graduation credits and increased 'the new basics' requirements, Las Vegas' Rancho

High School deleted its automotive occupational program. A former principal of the school, Ward Gubler, who had funded and nurtured that program was appalled. He noted that 17 percent of the nation's jobs are either directly or indirectly involved in the automotive industry. Neither the best neurologist nor the most prominent cardiologist will be able to save one life if his car will not get him to the hospital because his auto breaks down, due to inept automotive maintenance. Overall, enrollment in vocational education classes in Clark County high schools dropped 28 percent in the first year of the implementation of the new requirements and additional credits.

Even though Nevada's secondary schools have increased the number of courses required in the 'basics', critical thinking, logic, debate, and problem-solving skills are not commonly encouraged or stressed in schools today -- not in schools across the nation, and not in Nevada. The Las Vegas landscape contractor (mentioned earlier) recalls that, after completing a residential lawn irrigation system, he turned the main water source back on. His employee stood and watched a malfunctioning spray nozzle shoot water six feet into the air for fifteen minutes. When asked why he didn't bring it to the boss's attention, the employee answered, "I didn't know I was supposed to say something if it didn't work right." The contractor adds that, when his foreman has to leave a job site, valuable

manhours are lost. The employees are able to complete the task at hand, but cannot think ahead to the next step of the job; they sit down until the foreman returns to tell them what to do next.<sup>27</sup>

The housing boom in the Las Vegas valley has resulted in a marked increase in complaints about shoddy workmanship. In one of the most expensive and prestigious new housing developments in Las Vegas, the builders and contractors concede that they simply do not have qualified workers -- their employees just do not have the necessary skills to produce a quality product.

It should be apparent to the Clark County School District that vocational education has positive results in the local economy -- the newly-built Excalibur Hotel/Casino in Las Vegas has offered jobs to the entire class that has specialized in culinary arts, soon to graduate from Southern Nevada Vocational Technical Center (a vocational education high school).

It is clear that the economy of Southern Nevada needs about nine times more occupationally-trained workers than it does college graduates (see figure 7). The Clark County School District has released a list of the fastest-growing occupations in Nevada, and it is evident that, of the 23 occupations listed, only three or four would require a college degree. Yet, the district will neither concede to the need, nor fund vocational educational courses to

Figure 7

ANNUAL AVERAGE OF  
FASTEST-GROWING OCCUPATIONS IN  
NEVADA

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Retail sales workers.....	1,449
Janitors and cleaners.....	1,210
Cashiers.....	1,111
Waiters/waitresses.....	1,099
Housekeeping/maids.....	948
General managers/executives.....	861
Bookkeeping/accounting clerks.....	739
Blackjack '21' dealers.....	672
General office clerks.....	628
Dining room attendants (buspersons).....	439
Food preparation workers.....	425
Registered nurses.....	421
Elementary teachers.....	409
General maintenance repairers.....	406
Restaurant cooks.....	398
Gaming supervisors.....	390
Sales/floor/stock clerks.....	385
Carpenters.....	382
Gaming change persons.....	370
Accountants/auditors.....	367
First line supervisors.....	282
Receptionists.....	278
Food service/lodging managers.....	276

Source: Nevada State Employment Department

support the local occupational need. In another example, at Reynolds Electrical and Engineering Company (REECO), one of the largest employers at the Nevada Test Site, only about 9 percent of the employees are required to have degrees (see figure 8).

In recent developments in Las Vegas, that city's Chamber of Commerce has formed a 'roundtable' to confront problems in the educational system. They seek to cooperate with local schools and school officials in improving academic standards and educational quality. So far, their efforts have been met with defensive opposition from both the local School Board and the Clark County Classroom Teachers Association (CCCTA). Because the Clark County School District (CCSD) should be turning out young people prepared to enter the Southern Nevada workforce, it greatly behooves the School Board and the CCCTA to participate and cooperate with the Chamber in an attempt to better the educational process. Attempts by community business leaders to get involved in education show a genuine concern by the recipients of the products of the Clark County school system.

13. ETHICS: The underlying theme of this study of the inadequacies in the American vocational education system is that of ethics. Apart from the ethics issues connected to the larger social aspects (the concern of the military, business and industry, lack of enough good teachers, lack

FIGURE 8

REECO - NEVADA TEST SITE

EMPLOYMENT TOTALS BY CLASSIFICATION AS OF 8/14/88

<u>CLASSIFICATION</u>	<u>TOTAL</u>
Exempt.....	822
*NEMBU.....	631
**TENBU.....	276
Asbestos workers.....	11
Carpenters.....	173
Cement masons.....	20
Culinary.....	504
Wiremen.....	423
Linemen.....	60
Field survey.....	10
Firemen.....	47
Road sprinklers.....	12
Laborers.....	314
Operating engineers.....	732
Painters.....	62
Plumbers.....	180
Sheet metal workers.....	64
Teamsters.....	501
Miners.....	174
Bull gang.....	26
Drillers.....	38
Utility persons.....	15
STR ironworkers.....	122
RNF ironworkers.....	6
Elevator mechanics.....	4
Total force	<u>5,227</u>

Of the 5,227 employees, 473, or 9.05% possess a bachelor's degree or higher.

\*NEMBU Jobs are primarily clerical.  
 \*\*TENBU Jobs are primarily technical, like electronic technicians, lab techs, radiation safety, etc.

Source: REECO, Las Vegas, Nevada



of parenting), there exists the deeper, foundational ethical issue of human losses due to poor quality education, of humans wasted as compared to enabled to live fruitful lives.

Classical philosophers Plato and Aristotle, and great works such as the Bible, agree in the view that people are born with talents or aptitudes. "Waste not the talents that are in you" has been the frequent admonition of noted American pastor, Robert Schuller. But, our schools are failing to help our children develop their talents. Our young people are placed in a society where the aptitudes they do have are not being respected or developed, and where they are penalized for not having aptitudes they do not have. Not long ago, people who had manual arts talents were encouraged. They acquired a beginning in school, which lead to trades, and to lives of craftsmanship. But, today, it appears that people do not want to emulate craftsmen or tradesmen because of the negative socio-psychological stigma we have attached to skilled manual labor. By limiting the provision of vocational education in our schools, we are causing excessive human loss by denying children the chances to find and develop their talents. Furthermore, our educational system, which professes to be 'equal' for all, is, in fact, neglecting a vast majority of young people who possess the aptitudes and desires to pursue skilled labor as a dignified life's work.

By providing only an academic track to the nation's school children, a confusion of the mind -- and of our institutions -- is fostered. When all students are encouraged to go to college, a distortion is produced: colleges and universities are forced to accommodate the thousands of students who do not belong there, and to some extent, water down their degrees or use time for remedial work. At the same time, as we have seen, the military and industry, as a whole, are not finding people ready and able to perform the jobs that are available.

Many young people aspire to finding easy jobs with high salaries; they hope to find positions in other than rigidly hierarchical organizations: they have little respect for authority. How can we account for these attitudes? Is the traditional American ideal of work ethic dying? In our affluent-conscious, leisure-centered society, the work ethic has undergone dramatic change. Melvin Miller states that

recent surveys of student attitudes make it clear that youths are reluctant to accept the authoritarian structure evident in much of our business world.<sup>28</sup>

There seems to be a bad attitude toward work -- lots of people just do not want to do it! And, in the workplace, as the electrician's foreman quoted earlier has found, many employees are not giving their best -- they're doing just enough to get by and collect a paycheck. The attitudes, "That's not my job", and "I don't get paid to do that" are

commonly found in the workplace. This apathy very definitely adversely affects company productivity.

What happens to our constitutional rights and guaranteed freedoms because of the crisis in our educational system? If foreign technology and foreign competitors continue to excel in global matters, it could mean that more foreigners will be the employers and more Americans, the employees. This could seriously jeopardize us as a free people in a free society. The employer is not only the boss and the manager, but often, also the policymaker. If he opposed a right or freedom guaranteed us by our Constitution, because of his authority, would he not feel that he had the power or right to bring about changes, curtailments, or revocations of our rights? If an increasing number of young people drop out of school and gain no sense of their nation's history, are unable to read, write, and acquire other basic skills, democracy in the nation is in jeopardy, or simply lost. Educated young people are able to become informed about issues affecting them and their country, they can then play a part in maintaining a democratic government, and they want to do so. But sadly, in a recent Gallup poll, a large number of college seniors was unable to determine if a quote given to them was from the American Constitution or from the writings of Karl Marx. Clearly, this was because they did not know the Constitution, to which they should have been

exposed in elementary school, nor did they know the tenets of Marxism. The point is that citizenship was the moral quality on which this country was founded; its institutions require citizenship to work well.

The latest NAEP's Nation's Report Card (1990), indicates that,

1. Fewer than 40 percent of [high school] seniors knew [that] presidential candidates are chosen in national conventions;
2. Only 14.5 percent knew [that] the Supreme Court majority can strike down laws;
3. 40 percent couldn't identify any differences between the U.S. and the U.S.S.R.;
4. 22 percent thought U.S. courts could declare war;
5. 80 percent didn't have the foggiest idea [of] what Reconstruction was;
6. 41 percent didn't know the United States interred Japanese-Americans during World War II;
7. 58 percent didn't know who Teddy Roosevelt was.<sup>29</sup>

Most of these young people do not know where they geographically live in comparison to, i.e., The Netherlands, Sweden, or even, China or Russia. How can America's children come to know where they are going, when they do not know where they have come from, and where they are now! Without a sense of history, civics, and geography, our children cannot develop a sense of purpose and direction.

Finally, what about well-being, doing well, attaining

happiness in life? If people do what they're doing without knowledge, without self-development, how can they do it well? With knowledge comes the general know-how, the skill, art, or craft which enables a person to make something, produce something, whether that art or craft be to heal another human being, defend him eloquently in court, teach him, build him a house, fix his electrical wiring, design a computer program, excel as a manager or world leader, or grow crops to feed himself and others. Through knowledge of how to do well, one comes to experience one's own well-being. And that is what is considered to be the "pursuit of happiness" and its meaning. How we work, and what that has to do with our talents, constitutes our well-being, or, by default, our loss of it.

## ENDNOTES

- <sup>1</sup>Las Vegas Review-Journal. January 14, 1990.
- <sup>2</sup>Ibid.
- <sup>3</sup>Las Vegas Review-Journal. March 3, 1990.
- <sup>4</sup>Ibid.
- <sup>5</sup>Las Vegas Review-Journal. January 14, 1990.
- <sup>6</sup>National Assessment of Educational Progress.  
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- <sup>9</sup>Beatrice and Ronald Gross. The Great School Debate.  
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- <sup>16</sup>Trevor Armbrister. "New Jersey's Battle for Better  
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<sup>17</sup>Ward H. Gubler, interview by author, Las Vegas, Nevada, February 9, 1990.

<sup>18</sup>Gary Waters, Nevada Vocational Association, to a class of graduate students, University of Nevada, Las Vegas. March 19, 1990.

<sup>19</sup>Ward H. Gubler, interview by author, Las Vegas, Nevada, February 9, 1990.

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<sup>22</sup>Democracy and Education. New York: MacMillan, 1916.

<sup>23</sup>Barbara Vobejda, "Decision Near on Vocational Education", Washington Post. December 30, 1988.

<sup>24</sup>The National Center for Research in Vocational Education. Occupational Education: What the Research has Shown. The Ohio State University. Columbus, OH. 1987.

<sup>25</sup>Las Vegas Review-Journal. March 17, 1990.

<sup>26</sup>Ward H. Gubler, interview by author, Las Vegas, Nevada, February 9, 1990.

<sup>27</sup>Yardsmith, interview by author, Las Vegas, Nevada, February 8, 1990.

<sup>28</sup>Principles and a Philosophy for Vocational Education. Columbus, OH.: The Ohio State University, 1985.

<sup>29</sup>National Assessment of Educational Progress. The Nation's Report Card. Princeton, NJ. 1990.

#### IV. CONCLUSION

The trend in American society today is to connect the terms occupation, trades, crafts, manual labor, technician, mechanic, worker, farmer, repairman, with the concept of the lower class, the hired hand, the not-too-bright, rather than the well-qualified, trained practitioner. As William Raspberry puts it, "we are teaching [our children] contempt for manual labor."<sup>1</sup> He goes on to say that,

We teach all our children as though we expect them to go to college and become professionals. We count it an insult to suggest to them that they might think of a career as an electrician or a plumber or a transmission specialist -- not because these jobs don't pay enough, but because they lack prestige.<sup>2</sup>

We have an aversion to blue-collar, dirty fingernails jobs. And this aversion is producing two widely harmful consequences:

- (1) Young people with aptitudes for craft skills do not develop their potentiality; and
- (2) our country's needs for these skills are not met.

Thus, we fail our youngsters as people, and our society as a whole.

America is in danger; her people and free institutions are in danger. Because of a satisfaction for, and acceptance of mediocrity in our educational system, we have lost some battles, are losing more, and, if we don't arm



ourselves by immediately restructuring our system of education, we are going to lose the war. We have lost our ability and desire to work well; and, as a consequence, we have lost our appreciation for dignified skilled manual labor; we have lost our edge on the global economy; we have lost our world lead in technology. We are losing our work ethic -- our desire to be productive; we are losing our position as a defense power; and we are losing our position as a world moral and political leader. These consequences are not separate -- they belong together. We may be in grave danger of losing our well-being, our happiness, and, most importantly, our freedom, and the institutions intended to guard it.

Education is everybody's business -- government, military, business and industry, civic leaders, parents, and students. We need to reform education drastically now, today. We can not wait until tomorrow, because tomorrow is already here.

We must assume the job of educating our youth, morally, philosophically, and economically. The solution for the nation's educational problems lies in the will of the people. People in the United States enjoy the right to speak their minds, and the right to vote into office, at the local, state, and federal levels, those they believe will effectively lead them and make the right decisions for them. The people elect presidents, governors, and

legislators who, in turn, have jurisdiction over State Boards of Instruction. If the will of the people is to reform education, their desires will be evidenced by their election of leaders who not only share their concern about education, but who will also diligently work toward educational reform.

The government should play more of a role in education -- continuing and expanding programs, doing more to stress and fund science and technology programs. This might mean a 1990's version of the National Defense Education Act, or a 'high technology' version of Morrill Act. To date, while our current political leaders talk a great deal about involvement in education, there is no evidence to prove that they are doing much about it, nor is there evidence that taxes for better education would be welcomed by those who run for office. Educational reform must have a strong commitment from strong government leadership. It inevitably will take federal and state legislatures with genuine 'let's do something' concern -- not just rhetoric and lip service -- to help in effecting major rebuilding of the nation's educational system.

A complete restructuring of our American educational system is imperative so that responsibility and success will replace school dropout, failure, and delinquency in our children. We must prepare our children for fulfilling adulthood, and productive and rewarding lives. Educational

reform is critical if we are to survive in the global arena. But, if, in the 1990s, education does not greatly improve, the U.S. will not be able to remediate its education problems at all in the 21st century.

We Americans can do it! We were able to establish our nation as the model of democratic freedom in the New World, we were able to rally to victory in World Wars I and II, we were able to meet the challenges of the satellite age. If it is our will, we can solve the problems of mediocrity in our educational system, and attain excellence in education.

This study concludes with several recommendations:

1. Americans from every sector must get involved in advocating sweeping changes and restructuring of the educational system;
2. Educators must be required to be more qualified to teach, and more knowledgeable in their fields; educators should be responsible for their own professionalism;
3. Government, at the federal, state, and local levels must initiate, oversee, and follow up on major reforms in education, from preschool through high school, with a major emphasis on the elementary grades, beginning with kindergarten;
4. We Americans must reassess and reorganize our priorities -- the self-centered, leisure-oriented way of life cannot be considered solely to be the pursuit of happiness. By espousing a consumer-conscious, pleasure-seeking lifestyle, we are doing something destructive to our citizenry: we are neglecting our own children. We need to place our role in education, and the needs of our children and our schools higher in priority than the quest for fancy lifestyles;
5. The "basics" -- reading, writing, arithmetic, civics, and computer literacy must begin with strong foundations in elementary schools. It must be recognized that, when students come to their high

schools with poor backgrounds in the basics, the chances that they will succeed at the secondary level are severely diminished, if not totally nonexistent;

6. Curricula in high school should include varied occupational courses in order to serve the majority of students, and in order to fit their aptitudes, preferences, and learning styles. We must address the question of whether good technical education will be better achieved by a two-track school curriculum, or by a more integrated curriculum;
7. Educators should listen to and cooperate with business and industry in solving problems in education, and improving the quality of education;
8. We must recognize that the nationwide lack of technically trainable young people, the abundance of high school dropouts, the large numbers of young drug and alcohol abusers, the high rate of teenage suicides, and the frightening rise in the numbers of young gang members, are, in fact, connected pieces of one problem: the failure of our homes and schools, one crucial aspect of which is the lack of sustained occupational education;
9. We must recognize the ethical harm done when school systems neglect the natural aptitudes of a significant proportion of our children.

## ENDNOTES

<sup>1</sup>Washington Post. December 17, 1988.

<sup>2</sup>Ibid.

## APPENDIX A

Recommendations from the Commission on Excellence in Education in their report, A Nation at Risk: The Imperative for Educational Reform.

### Recommendation A: Content

We recommend that state and local high school graduation requirements be strengthened and that, at a minimum, all students seeking a diploma be required to lay the foundations in the Five New Basics by taking the following curriculum during their 4 years of high school:

- (a) 4 years of English
- (b) 3 years of mathematics
- (c) 3 years of science
- (d) 3 years of social studies
- (e) one-half year of computer science

For the college-bound, 2 years of foreign language in high school are strongly recommended in addition to those taken earlier.

### Implementing Recommendations:

1. The teaching of English in high school should equip graduates to :

- (a) comprehend, interpret, evaluate, and use what they read;
- (b) write well-organized, effective papers;
- (c) listen effectively and discuss ideas intelligently;
- (d) know our literary heritage and how it enhances imagination and ethical understanding, and how it relates to the customs, ideas, and values of today's life and culture.

2. The teaching of mathematics in high school should equip graduates to:

- (a) understand geometric and algebraic concepts;
- (b) understand elementary probability and statistics;
- (c) apply mathematics in everyday situations;
- (d) estimate, approximate, measure, and test the accuracy of their calculations.

In addition to the traditional sequence of studies available for college-bound students, new, equally demanding mathematics curricula need to be developed for those who do not plan to continue their formal education immediately.

3. The teaching of science in high school should provide graduates with an introduction to:

- (a) the concepts, laws, and processes of the physical and biological sciences;
- (b) the methods of scientific inquiry and reasoning;
- (c) the application of scientific knowledge to everyday life;
- (d) the social and environmental implications of scientific and technological development.

Science courses must be revised and updated for both the college-bound and those not intending to go college. An example of such work is the American Chemical Society's "Chemistry in the Community" program.

4. The teaching of social studies in high school should be designed to:

- (a) enable students to fix their places and possibilities within the larger social and cultural structure;
- (b) understand the broad sweep of both ancient and contemporary ideas that have shaped our world;
- (c) understand the fundamentals of how our political system functions;
- (d) grasp the difference between free and repressive societies.

An understanding of each of these areas is requisite to the informed and committed exercise of citizenship in our free society.

5. The teaching of computer science in high school should equip graduates to:

- (a) understand the computer as an information, computation and communication device;
- (b) use the computer in the study of the other Basics;
- (c) understand the world of computers, electronics, and related technologies.

In addition to the New Basics, other important curriculum matters must be addressed:

6. Achieving proficiency in a foreign language ordinarily

requires 4 to 6 years of study and should, therefore, be started in the elementary grades. We believe it is desirable that students achieve such proficiency because study of a foreign language introduces students to non-English-speaking cultures, heightens awareness and comprehension of one's native tongue, and serves the Nation's needs in commerce, diplomacy, defense, and education.

7. The high school curriculum should also provide students with programs requiring rigorous effort in subjects that advance students' personal, educational, and occupational goals, such as fine and performing arts and vocational education. These areas complement the New Basics, and they should demand the same level of performance as the Basics.

8. The curriculum in the crucial eight grades leading to the high school years should be specifically designed to provide a sound base for study in those and later years in such areas as English language development and writing, computational and problem-solving skills, science, social studies, foreign language, and the arts. These years should foster an enthusiasm for learning and the development of the individual's gifts and talents.

9. We encourage the continuation of efforts by groups such as the American Chemical Society, the American Association for the Advancement of Science, the Modern Language Association, and the National Councils of Teachers of English and Teachers of Mathematics, to revise, update, improve, and make available new and more diverse curricular materials. We applaud the consortia of educators and scientific, industrial, and scholarly societies that cooperate to improve school curriculum.

#### Recommendation B: Standards and Expectations

We recommend that schools, colleges, and universities adopt more rigorous and measurable standards, and higher expectations for academic performance and student conduct, and that 4-year colleges and universities raise their requirements for admission. This will help students do their best educationally with challenging materials in an environment that supports learning and authentic accomplishment.

#### Implementing Recommendations:

1. Grades should be indicators of academic achievement so they can be relied on as evidence of a student's readiness for further study.



2. Four-year colleges and universities should raise their admissions requirements and advise all potential applicants of the standards for admission in terms of specific courses required, performance in these areas, and levels of achievement on standardized achievement tests in each of the five Basics and, where applicable, foreign languages.

3. Standardized tests of achievement (not to be confused with aptitude tests) should be administered at major transition points from one level of schooling to another and particularly from high school to college or work. The purposes of these tests would be to:

- (a) certify the student's credentials;
- (b) identify the need for remedial intervention;
- (c) identify the opportunity for advanced or accelerated work.

The tests should be administered as part of a nationwide (but not federal) system of state and local standardized tests. This system should include other diagnostic procedures that assist teachers and students to evaluate student progress.

4. Textbooks and other tools of learning and teaching should be upgraded and updated to assure more rigorous content. We call upon university scientists, scholars, and members of professional societies, in collaboration with master teachers, to help in this task, as they did in the post-Sputnik era. They should assist willing publishers in developing the products or publish their own alternatives where there are persistent inadequacies.

5. In considering textbooks for adoption, states and school districts should:

- (a) evaluate texts and other materials on their ability to present rigorous and challenging material clearly;
- (b) require publishers to furnish evaluation data on the material's effectiveness;

6. Because no textbook in a subject can be geared to the needs of all students, funds should be made available to support text development in "thin-market" areas, such as those for disadvantaged students, the learning disabled, and the gifted and talented.

7. To assure quality, all publishers should furnish evidence of the quality and appropriateness of textbooks, based on results from field trials and credible evaluations. In view of the enormous numbers and varieties

of texts available, more widespread consumer information services for purchasers are badly needed.

8. New instructional materials should reflect the most current applications of technology in appropriate curriculum areas, the best scholarship in each discipline, and research in learning and teaching.

#### Recommendation C: Time

We recommend that significantly more time be devoted to learning the New Basics. This will require more effective use of the existing school day, a longer school day or a lengthened school year.

#### Implementing Recommendations:

1. Students in high schools should be assigned far more homework than is now the case.
2. Instruction in effective study and work skills, which are essential if school and independent time is to be used efficiently, should be introduced in the early grades and continued throughout the student's schooling.
3. School districts and state legislatures should strongly consider 7-hour school days, as well as a 200-to-220 school year.
4. The time available for learning should be expanded through better classroom management and organization of the school day.

If necessary, additional time should be found to meet the special needs of slow learners, the gifted, and others who need more instructional diversity than can be accommodated during a conventional school day or school year.

5. The burden on teachers for maintaining discipline should be reduced through the development of firm and fair codes of student conduct that are enforced consistently, and by considering alternative classrooms, programs, and schools to meet the needs of continually disruptive students.
6. Attendance policies with clear incentives and sanctions should be used to reduce the amount of time lost through student absenteeism and tardiness.
7. Administrative burdens on the teacher and related intrusions into the school day should be reduced to add time for teaching and learning.

8. Placement and grouping of students, as well as promotion and graduation policies, should be guided by the academic progress of students and their instructional needs, rather than by rigid adherence to age.

Recommendation D: Teaching

This recommendation consists of seven parts. Each is intended to improve the preparation of teachers or to make teaching a more rewarding and respected profession. Each of the seven stands on its own and should not be considered solely as an implementing recommendation.

1. Persons preparing to teach should be required to meet high educational standards, to demonstrate an aptitude for teaching, and to demonstrate competence in an academic discipline. Colleges and universities offering teacher preparation programs should be judged by how well their graduates meet these criteria.
2. Salaries for the teaching profession should be increased and should be professionally competitive, market-sensitive, and performance-based. Salary, promotion, tenure, and retention decisions should be tied to an effective evaluation system that includes peer review so that superior teachers can be rewarded, average ones encouraged, and poor ones either improved or terminated.
3. School boards should adopt an 11-month contract for teachers. This would ensure time for curriculum and professional development, programs for students with special needs, and a more adequate level of teacher compensation.
4. School boards, administrators, and teachers should cooperate to develop career ladders for teachers that distinguish among the beginning instructor, the experienced teacher, and the master teacher.
5. Substantial nonschool personnel resources should be employed to help solve the immediate problem of the shortage of mathematics and science teachers. Qualified individuals including recent graduates with mathematics and science degrees, graduate students, and industrial and retired scientists could, with appropriate preparation, immediately begin teaching in these fields. A number of our leading science centers have the capacity to begin educating and retraining teachers immediately. Other areas of critical teacher need, such as English, must be addressed.
6. Incentives, such as grants and loans, should be made

available to attract outstanding students to the teaching profession, particularly in those areas of critical shortage.

7. Master teachers should be involved in designing teacher preparation programs and in supervising teachers during their probationary years.

#### Recommendation E: Leadership and Fiscal Support

We recommend that citizens across the Nation hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms, and that citizens provide the fiscal support and stability required to bring about the reforms we propose.

#### Implementing Recommendations:

1. Principals and superintendents must play a crucial leadership role in developing school and community support for the reforms we propose, and school boards must provide them with the professional development and other support required to carry out their leadership role effectively. The Commission stresses the distinction between leadership skills involving persuasion, setting goals and developing community consensus behind them, and managerial and supervisory skills. Although the latter are necessary, we believe that school boards must consciously develop leadership skills at the school and district levels if the reforms we propose are to be achieved.

2. State and local officials, including school board members, governors, and legislators, have the primary responsibility for financing and governing the schools, and should incorporate the reforms we propose in the educational policies and fiscal planning.

3. The Federal Government, in cooperation with states and localities, should help meet the needs of key groups of students such as the gifted and talented, the socioeconomically disadvantaged, minority and language minority students, and the handicapped. In combination these groups include both national resources and the Nation's youth who are most at risk.

4. In addition, we believe the Federal Government's role includes several functions of national consequence that states and localities alone are unlikely to be able to meet: protecting constitutional and civil rights for students and school personnel; collecting data, statistics, and information about education generally; supporting curriculum improvement and research on teaching, learning,

and the management of schools; supporting teacher training in areas of critical shortage or key national needs; and providing student financial assistance and research and graduate training. We believe the assistance of the Federal Government should be provided with a minimum of administrative burden and intrusiveness.

5. The Federal Government has the primary responsibility to identify the national interest in education. It should also help fund and support efforts to protect and promote that interest. It must provide the national leadership to ensure that the Nation's public and private resources are marshaled to address the issues discussed in this report.

6. This Commission calls upon educators, parents, and public officials at all levels to assist in bringing about the educational reform proposed in this report. We also call upon citizens to provide the financial support necessary to accomplish these purposes. Excellence costs. But in the long run mediocrity costs far more.

#### A Word to Parents and Students:

##### To Parents:

You know that you cannot confidently launch your children into today's world unless they are of strong character and well-educated in the use of language, science, and mathematics. They must possess a deep respect for intelligence, achievement, and learning, and the skills needed to use them; for setting goals, and for disciplined work. That respect must be accompanied by an intolerance for the shoddy and second-rate masquerading as "good enough."

You have the right to demand for your children the best our schools and colleges can provide. Your vigilance and your refusal to be satisfied with less than the best are the imperative first step. But your right to a proper education for your children carries a double responsibility. As surely as you are your child's first and most influential teacher, your child's ideas about education and its significance begin with you. You must be a living example of what you expect your children to honor and to emulate. Moreover, you bear a responsibility to participate actively in your child's education. You should encourage more diligent study and discourage satisfaction with mediocrity and the attitude that says "let it slide"; monitor your child's study; encourage good study habits; encourage your child to take more demanding rather than less demanding courses; nurture your child's curiosity, creativity, and confidence; and be

an active participant in the work of the schools. Above all, exhibit a commitment to continued learning in your own life. Finally, help your children understand that excellence in education cannot be achieved without intellectual and moral integrity coupled with hard work and commitment. Children will look to their parents and teachers as models of such virtues.

To Students:

You forfeit your chance for life at its fullest when you withhold your best effort in learning. When you give only the minimum to learning, you receive only the minimum in return. Even with your parents' best example and your teachers' best efforts, in the end it is your work that determines how much and how well you learn. When you work to your full capacity, you can hope to attain the knowledge and skills that will enable you to create your future and control your destiny. If you do not, you will have your future thrust upon you by others. Take hold of your life, apply your gifts and talents, work with dedication and self-discipline. Have high expectations for yourself and convert every challenge into an opportunity.

## APPENDIX B

Recommendations from The National Commission on Secondary Vocational Education in their report, The Unfinished Agenda.

### Access

We have made six recommendations pertaining to problems of access to vocational education. Each is intended to extend and enrich the benefits of vocational preparation to all secondary students.

1. All students should be able to choose from a comprehensive set of course offerings across academic and vocational areas.
2. Student participation in extracurricular and school social activities must not be limited for those students who have enrolled in vocational areas of concentration.
3. Systematic programs of interest and aptitude assessment, career planning, and occupational information designed to facilitate student curriculum choices must be available to all students.
4. School counselor functions need to include cooperative activity with teachers, the use of group guidance techniques, computer-assisted guidance, comprehensive career information systems, and related methods designed to provide career guidance to all students.
5. Counselor-student ratios should not exceed 250 students per counselor.
6. While we recognize the need to consolidate some programs into regional area vocational centers and vocational high schools, vocational education should take place primarily in the comprehensive high school.

### Equity

Equity of educational opportunity is a deeply cherished American ideal that ought not, and need not be compromised to serve a false sense of excellence. We make four recommendations pertaining to equity intended to reduce the stigma associated with certain courses of study and to

ensure that school officials aggressively pursue the full participation of special student groups in vocational courses and programs.

1. State and local school officials must guarantee educational equity in their schools. This includes full participation of special population youth and potential dropouts.
2. Schools should not provide separate tracks that lead to distinct diplomas.
3. States and local schools should undertake the use of individualized employability development plans with all students to coordinate instructional support services and career planning.
4. School administrators, counselors, and vocational teachers must guarantee that males and females have equal access to and are recruited for all vocational offerings. Information on sex bias, stereotyping and discrimination must be incorporated into the instructional program and guidance services.

#### Curriculum

We make six recommendations pertaining to curriculum. Three recommendations focus on needed improvements in the content of vocational courses. Three other recommendations focus on mandated curricular requirements. Both are equally important in developing an integrated curriculum.

1. States should not mandate curricular requirements that restrict students' opportunities to participate in vocational education experiences.
2. Secondary vocational education courses should provide instruction and practice in the basic skills of reading, writing, arithmetic, speaking, listening, and problem-solving. This addresses the current demand for the new basics without locking all students into the academic classroom.
3. In addition to developing occupational skills, secondary vocational courses must develop self-esteem, positive attitudes toward work, safe work habits, job-seeking skills, and other general employability skills.
4. Vocational education courses must be enriched and diversified to make these courses attractive to all students, including the college bound.



5. Students should be allowed to satisfy some requirements for high school graduation -- for example in the areas of mathematics, science, English, or social study -- with selected courses in areas of vocational education that are comparable in content coverage and rigor.

6. State and local educational administrators should provide the opportunity for all vocational students to participate in recognized vocational student organizations.

#### Teacher Recruitment and Preparation

We recommend that action be taken by university teacher educators and local school officials to upgrade the quality and performance of vocational classroom teachers. The five parts of this recommendation pertain to recruitment, preservice teacher education, certification, and inservice teacher preparation.

1. Universities should offer credit for applicable work experience, including credit toward a baccalaureate degree.

2. Certification of all teachers should include both an academic program and work experience record of demonstrated mastery in their field.

3. Competitive salaries and other incentives must be provided to attract and retain teachers.

4. Upgrading opportunities for vocational teachers, counselors, administrators, and teacher educators should be provided through a combination of workshops, seminars, course work for credit, and back-to-industry work experience.

5. All vocational teacher education programs must be improved to reflect recent research and development on teaching, learning, and instructional technology.

#### Standards and Accountability

Current program standards and accountability measures are useful but not central to issues of teaching and learning. Therefore, our one recommendation is that the effectiveness of vocational instruction should be judged by before-after changes in student knowledge, skills, and attitudes.

#### Articulation

Articulation -- meaning close interaction among different levels of education -- occurs both vertically, across grade levels, and laterally, among school and non-school

providers of employment-related education and training. We believe that such coordination and cooperation must move from the realm of rhetoric into the world of practice. Our two recommendations are directed at key actors and actions to achieve this goal.

1. Principals must provide for curriculum coordination across all academic and vocational education subject areas and throughout all educational levels.

2. Within state policy guidelines, each secondary school should formulate or contribute to a meaningful and cost-efficient regional plan for providing employment-related education. Such plans should include policies and formal arrangements among elementary and junior high schools, community colleges, and other employment training-related organizations.

#### Leadership

Effective leadership at local, state, and federal levels is central to improving and expanding vocational education. We make six recommendations directed to these groups.

1. Federal leadership must ensure that appropriate vocational education opportunities are available for the educationally disadvantaged.

2. Federal funding should be increased to support research and development on vocational education, experimental and innovative programs, and the collection and dissemination of information.

3. State leadership should initiate and coordinate the articulation of academic and vocational curricula.

4. Local school officials, from central office administrators to building administrators, are responsible for the image of vocational education in their schools and school districts and must make certain that vocational programs are not used as a "dumping ground."

5. State agencies and local schools should use federal allocations to supplement, not supplant, state and local funds for vocational education.

6. State and local policymakers should provide more encouragement and funds to develop, test, and disseminate innovative vocational education programs.

### Business, Labor, and Community

We make two straightforward recommendations about expanding the critical role of business, labor, and the community in vocational education.

1. Schools must involve business, labor, and the community in such vital areas as teacher development, curriculum update and evaluation, career education, and student employability.
2. Business and labor must seek out opportunities to work with schools to improve what goes on in the classroom.

### Field-based Learning

Field-based learning is grossly underutilized. Therefore, we recommend that supervised, field-based learning experiences be made available to all secondary students. Cooperative education must be a "capstone" element in all vocational education programs.

## APPENDIX C

Recommendations from the Aerospace Education Foundation Study, America's Next Crisis: The Shortfall in Technical Manpower.

AT THE FEDERAL LEVEL:

The President has already taken the lead by establishing educational reform as a top priority. To reinforce his own leadership, he should:

1. Designate the Secretary of Education to coordinate the reforms, to be an 'education czar." He should require expanded coordination among departments of the Executive Branch. One example of fruitful coordination involved the combined effort of the departments of Labor, Education and Commerce to identify the key elements of the crisis in their report, Building a Quality Workforce, July 1988. Inclusion of other departments, especially the Department of Defense, in such coordinated efforts will yield productive results when coordinating specific actions.

2. Direct that the Secretary of Education lead an information collection and dissemination effort to be undertaken by all federal departments. The Secretary should be the focal point for compiling the information into useful and distributable form nation-wide.

The Cabinet departments and General Services Administration should:

1. Streamline disposal regulations and procedures to facilitate turnover to schools of excess or obsolete equipment useful in technical teaching.

2. Revise acquisition regulations and policies to allow government contractors to treat funds spent on training and education as allowable expenses. Include the allowability both for internal programs directly applicable to the contract and to external programs such as business/labor/school partnerships.

3. Set educational standards and goals in workforce qualification for government contractors to meet, similar to existing goals for minority subcontracting.

4. Expand support for education programs into all departments. The Department of Defense operates the Veterans Education Assistance Program (VEAP), for instance. It should be expanded to provide incentives for scientists and engineers, as well as infantrymen, submariners and pilots. Similar education assistance programs should be initiated and expanded government-wide.

5. Federal departments should track retiring civil service and military engineers, scientists and technicians who can be made available to academia and industry to help improve education and training.

Congress should facilitate education and training partnerships at all levels by:

1. Devising tax incentives, such as creating depreciation allowances for resources committed to qualifying the workforce. An improved workforce is necessarily an intangible asset not normally depreciable. However, more qualified and productive workers produce tangible results, whether in goods or services.

2. Participating with the Executive Branch and the states in information collection, compilation and dissemination.

3. Supporting and validating Executive Branch actions to set goals and standards for actions to qualify the workforce.

#### AT THE STATE LEVEL:

The states with partnership initiatives already under way should expand them while concurrently joining in education system reform. Included in those actions:

1. Stimulating federal and local actions for education reform.

2. Encouraging and expanding partnerships and alliances between government, industry, labor and education sectors.

3. Taking action in state legislatures to remove barriers to the implementation of innovative programs and to structural educational reform.

#### THE PRIVATE SECTOR:

Actions by the private sector can create leverage and magnify the impact of programs already under way at local and state levels. Also, the private sector should stimulate appropriate actions by government at all levels.

To be effective, interaction and cooperation is required among sectors that are not always natural allies or partners.

Industry should invest in human capital, pinpointing and quantifying the investments it makes to qualify the present and future workforce:

1. Opportunities should be sought to invest in education and training partnerships at all levels.
2. Stimulate government to create policies and standards that reward industry investments.

The action statements in the Business Round Table's Blueprints for Action are pragmatic and achievable models for all of industry. They can be summarized as taking action now, creating sustained commitments to reform and to state and local partnerships as well as galvanizing federal policy actions.

Organized labor should:

1. Seek opportunities for partnerships with industry, government and educational institutions.
2. Strive for a fundamental change in attitude directed at identifying how unions can cooperate with industry in supporting various partnership initiatives and how teachers' unions can help stimulate true structural reform by removing present barriers.

Associations nationwide should:

1. Foster information exchange among members, other associations and other sectors of society.
2. Act as clearinghouses and resource centers of information. They should provide database services, becoming purveyors as well as collectors.

Everyone has a role in overcoming this crisis. No one, and no part of society, can be a spectator. Technical competence and U.S. competitiveness are everybody's business.

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