

## THE RIGHT STUFF IN EDUCATION FOR A VIABLE FUTURE THE WILLIAM DRAKE LECTURE, 1989

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I wish to divide my remarks between what I perceive to be the things required to give public school students the "right stuff" for creating a viable future and those changes necessary in postsecondary education to accomplish that goal. My position is based on futurism, that is, upon the premise that the future will be very different from the present and that changes of revolutionary magnitude will be required to resolve the major problems and to invent a future that will allow for the development of the maximum human potential. I need hardly remind you that children now entering kindergarten will not graduate from high school until the twenty-first century or that elementary school students can reasonably expect to be citizens of the middle of that century. If the twenty-first century is as different from the twentieth as the twentieth was from the nineteenth, we certainly have our work cut out for us if we are to prepare adequately for it. All indications point to an even greater rate of change than we have so far experienced.

Many of the suggestions incorporated here come from the groups I identify as "real futurists." What is a real futurist? On the one hand, the term is used to refer to cranks, flakes and nuts who spout their mystical visions of what tomorrow will bring. At the other end of the continuum are those whose computers generate narrow, rock-hard economic and demographic forecasts with no attention given to the influence of other factors. The real futurists are those who combine a theoretical background with data that has some validity and who are universal enough in their approach to take many variables into account. They neither forecast the world to come or try to control it but they do study the trends and suggest alternative plans that might allow us to cope with the consequences of those trends.

I turn now to a consideration of what is the "right stuff" for postsecondary education in the future. Obviously, it will be necessary to produce teachers or facilitators who can bring about the changes required and who have some enthusiasm for doing so. But postsecondary education is itself uncertain because of powerful forces now coming together to alter colleges and universities. Among them are:

Rapidly increasing career obsolescence in most fields of higher education

A declining youth cohort

An aging faculty

A continuing revolution in telecommunications and information systems

A growing societal recognition of the relationship between high quality education and economic development

A rapidly accelerating technology base that demands unprecedented new equipment

On the optimistic side, colleges and universities are loosely coupled organizations which have historically been able to adapt and to shift their organizational boundaries to accommodate social needs. They have, however, dictated their own rate of change and reacted to new demands without changing much themselves. It may no longer be possible for postsecondary institutions to have this privilege. For example, half of the three million school children in Texas are minority. Fifty seven percent of those in New Mexico fall into this category while California will shift its majority to the minority by 1994. As Harold Hodgkinson has pointed out, this demographic change will certainly alter universities in the near future.

Whether we use the term "business model in education" or the "cult of efficiency" or follow books like THE ADAPTIVE CORPORATION, schools and colleges certainly have been influenced by policies in government and industry. According to the Congressional Clearinghouse for the Future, this has been a disaster. Educational institutions, like the political apparatus and big business have been almost legendary in their refusal to think long term. Unless carefully watched, they find it all too easy to argue for a future that just happens to fit present policy--rather than to plan policy that produces desirable futures. After all, whatever effectively controls your vision of the future controls your thinking. Chief executive officers hold their jobs by showing a profit each year and elected officials are running for reelection even before they take office. No wonder schools have given little attention to analysis of critical trends and alternative futures. We should not be surprised that a study of economic, technological, political, environmental and demographic trends and the social causes and consequences of those trends has been regulated to the fringes of the universities while major institutions including public schools get on with the business of feeding the existing markets. This is a blueprint for disaster. The future is not one but many things. Like democracy, it needs millions of voices to shape it and it has no "official" creed. But since schools and colleges are the best instruments we now possess for inventing the future, it is critical that those institutions stop following the business and government short term model and concentrate on the think ahead policies that will shape the world of tomorrow, which will be inhabited by the students of today. The future is not preordained but can be shaped by human activity and that makes it necessary to distinguish desirable from undesirable actions. In a highly complex world, education provides the best purchase we have on uncertainty. Too many educators shrink from the task of engaging and mastering the future. It is a lot like downhill skiing. When you lean back timidly into the hill, you always fall. You have to learn to lean resolutely forward to control your motion down the slope. Educators

need to encourage students to lean forward, interested, confident and eager for what is to come.

The professional schools including those which prepare teachers and administrators have long been in the business of retraining but his function will become much more central to the entire university in the next decade. Corporations and service organizations are finding that the pace of change means that workers quickly become technologically obsolete. Lifelong learning is here to stay and those who are not constantly reeducated become functionally ignorant. Some industries have established large numbers of courses to keep employees current. For example, Westinghouse has a catalogue of courses larger than that of most universities. The need for continuing education cannot be met by industry alone, it will require the restructuring of higher education as well.

Beyond job preparation and reeducation within a given profession or career, the shift to new jobs and avocations is a harbinger of the future. Individuals no longer pursue a single career but are likely to have four or more in a lifetime. The traditional pattern of schooling, followed by work, followed by retirement or death is breaking down. Education, leisure and work and increasingly intermixed and healthy people who live long lives will increase their demand for educational services beyond the traditional span of job preparation. Such students are self-confident, demanding of support services, and have high expectations about the quality of education offered. One reason that more than half of the postsecondary educational opportunities currently are found outside of traditional colleges and universities is that the institutions of higher education have been slow to accommodate the needs of non-traditional students. New entrepreneurs like the Wang Institute and Keller Graduate School of Business have already moved into the post-secondary market and universities need to adjust to this competition.

Information systems, microtechnologies, computation and communications systems such as interactive television have revolutionary potential for education and have already vastly

influenced research. The format of education could be truly revolutionized through these technologies. We may learn to retrieve information differently, solve problems in new ways and interact in new time and space dimensions. Nevertheless, adjustments in the format of instruction to the new inventions has progressed slowly. Most universities still cling to the outmoded classroom with the lecture as a standard vehicle of instruction. This does not bode well for the future.

With growing alarm, administrators in higher education are beginning to recognize the coming shortage of qualified faculty members. The best minds are dissuaded from university careers by the stodginess of the institutions and their inability to offer a compensation package that is competitive with the private sector. It has long been the case that the attractiveness of teaching in the public schools is on the wane and now it appears more and more difficult to attract the most talented minds to the professoriate. A great deal of the shortage predicted when the present cadre of faculty retire must be addressed by the willingness of the society to provide better resources but the excitement and viability of a career in college teaching is defined by the institutions themselves. Insofar as universities are content to be spectators on the sidelines of social change or identify their roles as those of neutral researchers with no vested interest in the phenomenon they examine, they will not attract the best and the brightest. I believe that they could change roles and be much more attractive. Universities and public schools are unique in that profit, production or politics is not their ultimate goal. They are among the few institutions with a mission to serve the public and promote the general welfare. To attract quality faculty, this mission must not be aborted or forgotten.

While demography is the engine that drives enrollment in colleges and universities, it is also influenced by the attitudes and reactions of the people to postsecondary education. The Gallup Poll finding of 1984 that our educational system rated as the single most important factor in determining America's future has not changed significantly. Eighty seven percent of the

parents of students enrolled in public schools hope their children will go on to college. The major reasons are better job opportunities and higher income but also cited is the increased likelihood of being able to cope with problems encountered in life. The latter reason is clearly associated with the future and the need to find viable solutions to major problems if opportunities are to be realized and a satisfactory environment for life in the next century is to be maintained. It may also be anticipated that the public may shift its scrutiny from the quality of instruction in public schools to that in the colleges.

We are aware that this is the "now" generation, that immediate gratification is expected by most Americans and that finding meaningful employment at good wages is a popular goal. It should come as no surprise that Alexander Austin of UCLA found in 1984 that college freshmen were more materialistic and less altruistic than freshmen a decade before. According to Meyer (1985) making money has become a philosophy of life and only 45 percent feel that developing a meaningful philosophy of life is important. Today's students are politically diverse but conservative. Only 26 percent think the death penalty should be abolished while 71 percent think being financially well off is most important. As costs rise, some students graduate with enormous debts and this encourages them to seek the most lucrative specialties within the professions. Meantime, college expenses will disenfranchise certain segments of the population.

Not everything which is happening in higher education is bad. One of the outcomes of the challenges facing the economy in the United States is a reawakening of the recognition that education plays a major role in the economic development of the country. This is even more important in the information age than it was in the industrial era. With the recognition has come a demand for a responsive, high quality education and clearheaded administrative decisions. This creates exciting new ventures on the campuses as well as more accountability. Yet it is very important that we remember the philosophical tenets on which our institutions are founded. Not only do we serve the whole

of society, but we must be the conscience of the society. We may be full-fledged partners in a cooperative relationship with the forces of industry but we must also be the critics who question the directions that society is taking. To this end, the term "ivory tower" must gain a new and positive meaning.

Institutions of higher education are in a unique position to perform some essential services aimed toward inventing a better future. Environmental scanning is one of these. The term refers to using a wide-angle lens to view the trends and developments likely to have an impact on our life space. It can be likened to a radar system that moves across all 360 degrees of the horizon seeking those things that can alter our lives, both long term and short. This is a think tank type of activity that begins with wide reading, deeming what is important enough to track, and then developing detailed analysis of probability impact.

Another function to be promoted by universities is issues management. Once issues have been identified and probable significant impact has been demonstrated, plans need to be made for what can be done. An example is the hole in the upper ozone layer which obviously has the potential for major impact on health and agriculture. Who is responsible for planning what to do about the problem? Universities are in the best position to serve this responsibility.

A third important function for higher education in creating the right stuff for the future is multiple scenario analysis. Scenarios are defined as "comprehensive, internally consistent narratives describing a variety of plausible futures." They are usually based on assumptions concerning complex interactions among international, regional, domestic and/or local social, economic, political and technological influences. They weave together trends and possible events from a myriad of societal components that might influence the future environment. They become the basis for planning. Only universities, among the major institutions today have the breadth of mission and comprehensive nature required for multiple scenario analysis.

The universities will not be able to function very well in altering or inventing the future unless there is improvement in the quality of education at the public school level. The right stuff for the next century in elementary and secondary education is lacking in the current educational reform movement. It is not served by the industrial era model of greater competition, training the elite for success in narrow specialized fields, or improving the relative rank of schools on the college boards. To invent the future and resolve the major issues which threaten to destroy the opportunity to realize the maximum human potential, the schools need to address the following things.

#### Evaluating and analyzing information

Futurists say we live in the age of communications, the information era, the period of expanding knowledge. As information expands on an exponential scale, our problem becomes one of identifying what information can be trusted and how it may be used to resolve problems. It is much easier to create data than it is to purge the data banks of material which is in error or obsolete. Data is not information, information not knowledge, and knowledge certainly is not wisdom. Toffler has argued that we are drowning in information but we lack refined knowledge that can be certified as reliable. Theobald believes that in the future unbiased information and its use will be the most important commodity for survival. How are we to know our information is not biased? Clearly, education must provide the learner with tools for determining that. When information comes from a variety of sources such as television, it surely must not be taken at face value. Screening for false logic, questionable authority, errors of fact and hidden agendas must become a matter of habit. Much information now comes from the mass media and from those who wish to sell us something or persuade us to support them. There is also the problem of overlooking information vital to our needs. Education in the information-age must do better with the evaluation of ideas and information.

### Understanding the world in which we live

Schools and colleges in the industrial era were dominated by narrow vocational interests, job preparation, and early specialization. Recent national reports have merely added fuel to the fires of specialization and the elimination of courses designed for general education. McLuhan has argued that a fragmented, specialized curriculum will produce a citizen unable to understand the world in which she or he lives. Although Dewey lived before the age of the computer and cybernation, I believe he was right in defining the curriculum as life itself and in saying that citizens must be informed about and active in all fields that impact their lives. We can no longer afford to produce experts who are ignorant of the world beyond their fields and of the relationship between the disciplines they represent and the whole realm of human concerns. McHale has pointed out that any subject studied in depth relates to other subjects. We require a very broad general education that will provide cultural understanding, reveal trends, produce problem solvers, and prepare everyone to live in the learning society.

Theobald differentiates between education and training. He says we need both but that training must not substitute for education. Our existing institutions have had success in preparing physicians, lawyers, engineers, accountants, and the like in their special fields. We have done poorly with the education necessary to make sure these professionals know what is going on in the world, with their preparation to be active citizens, and with the ethical implications of the professional activities in which they engage. What department of school is responsible for teaching the significance of a billion new humans on earth by the year 2,000, or the impact of the ozone depletion, or the rich-poor gap, or the political power of multi-national corporations? All trend forecasts predict continued acceleration of information growth and the creation of new data sources as well. They also predict major global problems ranging from pollution, climatic change and resource depletion to megapolis development, increased terrorism, starvation and unemployability. Dealing with the world of

the future will not be served by anything less than the very highest quality general education for understanding our world.

### Education for the unknown

Traditional education had the mission to transfer that which was fully understood by informed adults to the young and uninitiated. Obviously, that was and is a function of schools but it gives insufficient attention to those problems for which no solution has been found. In order to survive and to realize the human potential, education must give the basis for resolving really significant issues that continue to plague the human race. Preventing nuclear war, providing basic health and educational services to newborn children in underdeveloped nations, dealing with the AIDS epidemic, making the world safe from terrorists, and restoring the ozone layer are examples of problems for which the answers are unknown. In addition to training for the known, we must create an environment and provide skills which make it possible for future citizens to resolve these and other emerging problems.

Dewey and Brameld stressed cooperation and problem solving among students. The complete act of thought in Dewey's work is one model for teaching how to cope with uncertainty. Progressives and social reconstructionists urged schools to promote a process of inquiry in an atmosphere of friendly interaction. These techniques are useful for dealing with the unknown. Obviously, they are not competitive in nature, they do not stress individual achievement, and they are not easily evaluated by standard tests. It appears that Dewey and many of his followers were closer to the future's educational theory than are most national leaders such as former Secretary William Bennett. Skill in cooperation and excellence in communication are among the most important aspects of problem solving that are absolutely critical for education for resolving issues with unknown solutions.

### Involvement in lifelong learning

Traditional schooling was organized into a series of plateaus--elementary, secondary,

higher. When the student had achieved his or her plateau, formal education ended and work or a professional career began. In the learning society, there can be no end to instruction and the need to acquire new information and new skills will continue throughout life. Education then must not be an end in itself and it must have no final outcome, but be a foundation from which subsequent learning experiences are built. Futurists think Dewey was right in saying that education is not preparation for life but life itself. As Isaac Azimov pointed out in HOMO OBSOLETUS, the human mind must be constantly engaged in learning or the individual will fall hopelessly behind. Toffler argues that the educated person of the future will be one who has learned how learn, unlearn, and relearn, in minimum time. Occupational roles will rapidly change making it necessary for successful people to keep pace with new knowledge and techniques. Constant alterations in the environment will require adults to devote much more of their time to learning than was the case in the industrial era. Learning will be the major occupation of people both for their careers and for being contributing members of society.

Major changes need to occur in schooling in order to pave the way for efficient lifelong learning. It is not enough to matriculate through a system and to acquire a degree or diploma. Anything which forms the basis for future learning ought to be well mastered. We need to create an environment in which students are really involved, one which is exciting and motivating.

#### Education for social diversity and global citizenship

Changing patterns of population growth and distribution, pressure on limited natural resources, interaction between different cultures and national groups, and what McLuhan called the "global village" require a deep commitment

to multicultural understanding. Education is still ethnocentric or national in its focus. Competition with foreign nationals and comparison of achievement statistics runs counter to the need for preparing global citizens who can work with people from a number of different cultures. American educators should realize that the United States is now the fourth largest Spanish speaking nation on earth, that future economic patterns are global rather than local, and that what is happening in South Africa or China affects us all. No single national, ethnic, or racial group can long remain dominant in the future world. We can no longer afford isolationism or tolerate ethnocentric values in our school. Future education must pave the way for maximum human achievement for all the world's people and provide the foundation for problem solving that is also global.

Dewey wanted subjects to be interrelated. He felt that history and geography should be linked together for better understanding of our world. He was a supporter of the study of comparative culture and was thoroughly democratic in his approach to all people. Dewey's educational theory is therefore quite compatible with the position of futurists on global education and multicultural education for world citizenship. Social reconstructionists wanted to make a new society in which responsible world citizenship and human rights for all would become a reality.

Based on a lifetime in higher and public education, I am convinced that the right stuff for human survival and inventing a viable future lies within the reach of the existing educational institutions. If we can learn to combat long-standing traditions, the rule of specialization, orientation to the industrial era now past and the overpowering influence of the business world, it is within our power to create a better world through the vehicle of education.

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