Physical and educational changes and changes in family and human values are briefly discussed in this speech focusing on the changing work force. Career education and career guidance are viewed as ways to help make education and learning more relevant. Makeup of the labor market is reviewed and changes projected for ten years in the future. The author contends that counselors are in the position to help people make a contribution to themselves, their family, and society by providing them with widening educational and career opportunities. (TA)
CAREER GUIDANCE AND THE CHANGING WORLD OF WORK

S. Norman Feingold

It is good to be here this morning. The last time I was in Buffalo, I spoke at a dinner honoring Israel Goldwater, Employment Service Supervisor of the Buffalo District Employment Service. It took me too hours to fly back to Washington, D.C. Today, my thoughts are WARM WEATHER. I wish that I could spend more time with you at this Conference for it represents the cutting edge for those of us who are interested in greater working cooperation between education and industry. On April 24th and 25th, Dr. Burtis Capehart, one of our key NAIEC leaders, chaired an invitational conference entitled. "Career Guidance Leadership Development Conference," It was one of the best conferences I ever attended. Fourteen professional associations cooperated in running it. The thrust was new models of successful cooperation between industry and education.

Because of plane schedules and a speech entitled, "The Future is Now," which I am giving at an APGA banquet this evening in Des Moines, Iowa, I must leave you after having had this too brief opportunity of sharing with you some of my concerns and interests.

It is good to get away as often as possible from Washington, D.C., for if one does not, one can rapidly lose perspective. Washington is the world's capital. Here power meets power, where people are transient, where there is at times more drinking than thinking, where meetings back one upon the other, and people too often are rushing on their individual treadmills.

We are living in a day in Washington where some people on Monday see their astrologer: Tuesday, take Yoga exercises; on Wednesday, get biofeedback; on Thursday, attend an encounter group; and on Friday, attend a lecture by the latest guru from India. On the weekend they participate in sensitivity sessions. All in all, Washington, D.C. moves at a pace unlike anywhere else, where seventeen-year-olds wear granny dresses and sixty-year-old women wear minis. Washington, D.C. is too often like a roller coaster with no time to see other parts of the carnival.

In the past, we heartily approved of the employee who remained in one job all his lifetime. Today, however, one looks most favorably on the person who has filled many jobs and moved up the promotional ladder. Education must be relevant. Up to
now, we have seen far too many bright youth drop out or stop out of school because they felt their education did not adequately prepare them for the world of work. Career education and career guidance are new thrusts that may put relevance back into education.

PHYSICAL CHANGES

Let us briefly look at some of the physical changes taking place in our society. The United States population is currently about 212 million. It is projected that by the end of the 1970’s our population may reach over 245 million people.

1. For centuries, man’s maneuverability was limited and, in fact, outdistanced by many members of the animal kingdom. Today, astronauts travel at 18,000 miles an hour, 300 miles a minute, 5 miles per second. Some physical scientists say this is just the beginning of far greater speeds.

2. We can measure time in billionths of a second. We have machines that can perform two million computations a second. Our missile program takes exact timing for granted.

3. Thirty years ago, we were relatively a rural community. Today, a megalopolis extends from Boston to Washington with a population of over 40 million within a 500 mile diameter.

By 1978, our space travel will be tremendously expanded. We have already landed on the moon and made fly-bys to other planets. New planes which are already in the experimental stage will hold approximately 600-700 passengers and travel at 2,000 miles an hour.

People are living longer. A higher percentage of the aging are in our society. More than 12% of the population is over 65. New human organ banks, including 70 eye banks, are in existence. Scientists predict that electronically operated artificial hearts may be commonly used in the future. TV programs from all over the world are now available by way of satellite. Perhaps, soon, wrist TV sets may be developed.

The immediate and long-range impact of automation is a subject of great controversy. In some blue-collar jobs, machines and computers have replaced men. On the other hand, additional jobs are being created yearly that require more training and specialized technical skills.

New careers are reflected in our language. Some new scientific terms include neutrino astronomy, space mechanics, radio astronomy, job development, selenology, plasma physics, coronary care unit technology, and inter-galactic media work. Technology has advanced rapidly in the following fields: Aerospace, air traffic control, bio-chemistry, bio-engineering, bio-medicine, computer network communication, conservation, crystallography, earth sciences, environmental control, marine sciences, meteorology, science data processing, solid-state physics, wildlife management, and genetics, lasers, oceanography, and orbiting satellites.

Nevertheless, more jobs and new careers need to be created. The Ph.D. in chemistry who drives a cab, and the many qualified and motivated teachers working as salespersons, are examples of a clear waste of professional skills and talent. Approximately 500,000 trained teachers are not working. The National Association of Industry-Education Cooperation (NAIEC) may play an exceedingly important role in helping to create new jobs and careers, whether they be in nursing homes, parks, or other human service professions in which people can help other people. Three-fourths of the medical drugs used today were not known ten years ago. Further innovations in the drug industry will continue at a rapid rate throughout the 1970’s and 1980’s.

In the mid-1980’s, three-fourths of our factories will be turning out products not yet invented. A large number of people will be employed by large-scale corporations and organizations.
In 1900, one out of every 10 people was a college graduate. When compared to the figures of 1900, today's are astounding. One in eight is a college graduate. Nine million young people of college age are presently in college. Knowledgeable people say that more than 50% of our gross national product is currently involved in education. Lifetime learning is necessary in order to prevent man's skills and knowledge from becoming obsolete.

In the 1970's we may expect the following:

- Continuing, lifetime education will be more prevalent. An increasing number of universities will expand their extension and correspondence programs. More and more workers will return to school or other settings to refurbish their skills.
- Behavioral scientists are making tremendous strides in understanding, predicting and controlling human behavior. The studies of Asch and Crutchfield reveal that if a majority of people see Circle A as larger than B, other people will also see A as larger than B. Let us also consider the research of Smith, Spence and Kline. An emotionless face is placed on the screen. If the word "angry" is rapidly flashed on the screen, people most often see the face as angry. If the word "happy" is flashed at a rapid rate, they are most likely to see the face as happy. More and more programs related to personality and new uses of drugs and drug therapy promise innovative treatments. Major breakthroughs may be possible.

FAMILY AND HUMAN VALUES

The nuclear family is undergoing many changes. Families are more mobile, competitive and achieving. In addition, the family's primary function is changing. More than one-third of all married women are currently in the work force. New projections for the 1970's indicate that, for many women, the roles of wife, mother and career woman will come into clearer focus. More than one-third of the people in our labor force are female. In 1972 the labor force totaled 89 million including military. The largest number of women workers is found in the age group 35-54. This group includes not only women returning to the labor force, but also women who are entering it for the first time. More than one million workers don't work the 9-5 routine. More than 8,000 concerns are now using the 4-day work week. An upcoming U.S. Department of Labor report will address itself to this particular subject.

Values are in transition. Perhaps this is the hidden agenda for many counseling sessions today. We live in an age in which far too many people have disregarded old values and have not been able to incorporate new ones to replace them. For the first time, values and work are being critically examined. Likewise, issues are being faced more realistically.

We are experiencing a major technological revolution which, in turn, has created a rapidly changing work force. By 1985, about one-half of the labor force will be under age 35. The number of female college graduates in the labor force is projected to grow rapidly. Mobility and adaptation are becoming characteristic of the American way of life. The population is in constant flux. More than 5 million people change their residence from one state to another during a given year. Many people are changing their jobs. In addition, the number of persons changing careers is on the rise. Most people presently in high school may well have four or five different jobs during their lifetime. From the earliest years through retirement, career education and career guidance may help make education and learning more relevant. The world of learning and the world of work can and should, be interrelated.
Technology has led to a higher standard of living as well as additional leisure time for most people. In addition, many new and improved consumer goods have resulted from improved technology. Approximately 25% of our households own at least two cars. This figure is double that of 1961. One and a half million households have three cars. A quarter of all U.S. homes have two or more TV sets. There are more leisure time activities in which people may engage. However, there is less space in which to do them. More people have to wait to enjoy the recreational facilities that are available. People wait at the golf course, at recreation camps, and so forth.

Technology has created many important and new manpower problems. In certain communities, technological change has hurt individuals, employers and even the communities themselves. Entrance jobs for young people, or those with minimal skills and education, have not increased as rapidly as the labor force. This problem has been further compounded by rising educational and training requirements for a growing number of occupations. In the 1980's, nine out of ten individuals currently living on a farm will be unable to earn a living through agriculture. They will have to move to the city to earn a living in a different manner.

It is no longer enough for a person entering the labor force to be able and willing to work. Today, the premium is on education and training. The person who is unable to read, the untrained high school dropout, and the worker with out-dated skills is no longer able to successfully compete in the labor market as he could in previous years. There is no question that our most precious resource is human beings. A new commitment has stirred people, particularly counselors, to develop and creatively use the nation's total manpower resources so that all citizens may be useful members of our society.

As a nation, we have learned to accept, and try to adjust to, technological change. With respect to manpower, there have been two major occupational shifts in this country. The first was a shift from farm to non-farm employment which began about 1880 in the North and West. After the year 1900, and stimulated by two World Wars, the pace of this shift accelerated. Agricultural employment declined in both actual numbers and proportion of the labor force. Between 1900 and 1960, the proportion of the nation's workers in agriculture declined from almost four out of every ten workers to fewer than one out of ten. It still continues to decline less than 4% in 1972 and is projected to be less than 2% in 1985.

The second major occupational shift was the changing relationship between white collar and blue collar employment which gained momentum around the turn of the century. In 1956, of the first time, white collar workers numbered more than blue collar workers. The trend in employment of service workers is also noteworthy. Between 1900 and 1960, the relative position of service workers as a group increased slightly. However, this relative stability masked a sharp decline in private household workers and a sharp increase in other service workers, such as hairdressers, policemen, practical nurses, etc.

A significant change in demand for labor took place around 1950. For the first time in history, the number of workers in service industries, which include trade, transportation, public utilities, finance, insurance, real estate, government and other services, surpassed the number in the goods-producing industries.

Never has there been an age when so many changes can be predicted and some preparation made for these changes. In the future, the rate of employment growth among industries will greatly differ.

Our present labor force numbers approximately 89 million. In 1985, it will be approximately 108 million. In 1973 the 16-24 age group accounted for 23% of the working age population; the 55-and-over age group for 27%; and the proportion of persons 25-54 years of age dropped to 50%. An increasing number of women are currently working. The male percentage of the job force is shrinking 67% in 1961, 63% in 1972. Through the mid-1980's, about 4.5 million jobs will be available annually. In spite of all our
automobiles, we may expect annual openings for 350 blacksmiths during the next decade. We may expect 10,000 openings annually for telephone operators, in spite of the rapid automation taking place in the telephone industry. About 411,000 secretaries and stenographers, 240,000 salesworkers, 68,000 individuals in driver occupations will be required each year.

1. Clerical workers comprise the largest segment of American workers. Almost 80 percent of the more than 14 million clerical workers are women. The largest number are stenographers, secretaries, and typists. The Women's Lib effort may alter this percentage. The need for clerical workers will continue to grow through the mid-1980's.

2. In 1972, approximately 14 million semi-skilled or operative workers comprised the second largest occupational category in the labor force. This category includes line workers; bus, truck and cab drivers; and most machine operators. The employment outlook for these workers through the mid-1980's is generally below average despite the fact that growth and replacement needs will provide jobs for over 7.2 million workers between the present and 1985. Driving occupations will enjoy a good employment outlook through the mid-1980's.

3. In 1972, 11 million skilled workers made up another large segment of employed persons. This group includes carpenters, tool and die makers, electricians, typesetters, etc. Employment outlook for this group is divergent among its subgroups. In general, precision instrument craftsmen, mechanics and repairmen enjoy a favorable occupational outlook. Continued industrial growth will provide the main source of employment for skilled workers in the building trades. On the other hand, manpower forecasts generally indicate a minimal growth in need for machinists, carpenters, bakers, compositors and typesetters, and kindred workers through the mid-1980's. Approximately 13.5 million skilled workers will be employed in 1985.

4. As an occupational group, professional and technical workers have the brightest employment outlook through the mid-1980's. In 1972, approximately 11.5 million workers comprised this highly trained segment of the labor force. Seven out of ten of these workers are engaged in teaching, health services, or scientific and technical work. By 1985, the need for professional and technical workers will increase about 50 percent over 1972 levels. Demand for additional manpower is already in evidence in professional and technical fields. The demand for professional and technical workers, and the shortage of highly trained workers, has ramifications for other ranks of the occupational ladder. Greater emphasis is now being placed on the development of workers with less than professional training. This relatively new, and still largely undefined segment of the work force, will continue to grow and solidify through and beyond the 1970's. Opportunities for these technicians, particularly in the health and helping professions, will continue to rise if present trends persist.

5. Outlook for agricultural workers, except scientific and research personnel, will continue to decline. In 1972, there were about 3.1 million agricultural workers.

6. Managers, proprietors and kindred workers are expected to show a slightly above average growth. However, a decrease in the self-employed segment of the labor force is expected. On the other hand, the outlook through the 1970's is good for salaried workers, i.e., executives and managers, but not for proprietors. In 1972, there were 8.0 million workers in this category. In 1985, there will be 10.5 million managers, proprietors and kindred workers.

7. Through the mid-1980's, employment for workers in sales occupations, real estate, stock brokers, insurance, etc. will rise at a slower rate than the economy as a whole. Outlook appears particularly good for service occupations such as police work in which a backlog presently exists. In 1972, 5.4 million workers were in sales. By 1985, there will be 6.5 million. In 1972, 11.0 million workers were in services. By 1985, there will be about 13.4 million.

8. The predicted outlook for unskilled workers is considerably below the average increase, i.e., a 6.7% increase for laborers compared to an average increase of 24% for all workers between 1972 and 1985. This occupational category absorbs a large percentage of non-white workers. Unless Blacks improve their access to skilled jobs, they will continue to have more serious unemployment problems than white
workers. In 1972, there were 4.2 million unskilled workers. It is predicted that by 1985 there will be only a slight change - 4.8 million.

TEN YEARS FROM NOW

The makeup of the labor market is changing. Farm employment will continue to decline, causing our society to pass further from agricultural to non-agricultural employment. The most rapid growth is occurring in services. This is caused by an increasing need for repairs, advertising and many other services for the highest standard of living for which a growing population can call. Government employment at the local, state and national levels has become one of the fastest growing industries. We may expect further increases in this area. Nearly all of the future growth is expected in state and local governments resulting from the increased need for public health, education, sanitation, welfare and similar services.

Construction work is expected to rise more slowly than average by 1985. A rapid rise in finance, insurance and real estate is expected in both banking and insurance.

The rise of employment in trade will result from a rapidly growing population, a higher standard of living, and a greater number of people employed part time, especially women in supermarkets, grocery stores, etc. in suburbs. Manufacturing is expected to grow slightly. It appears that most of the increase will be in durable goods. In transportation and public utilities, there will be divergent trends. Air transportation and motor freight are expected to rise while railroad employment will continue to decline.

We must remember, however, that by 1985, less than 20% of all jobs will require college graduates. As counselors, we should be cautious not to put undue emphasis on a college education at the expense of other equally important courses of study. We must also attempt to see that non-professional courses receive the recognition that professional courses receive - the dignity, honor and prestige that they merit. Service crafts and technical occupations should gain more status than they presently have. Some occupations have shortages because they are lacking in status. I do not doubt that we could remedy the shortage of chefs in this country if, as in France, we held national cooking competitions. In France, chefs receive many accolades, including the coveted Legion of Honor.

Access to national trends is no panacea for local or regional manpower projects. Despite the importance of a knowledge of national trends, it should be remembered that training is a local affair and must be carried out with a specific labor market trend in mind. However, a constantly revised and reasonably detailed national framework may help regional forecasters make better local manpower projections than they could otherwise.

People can make a contribution to themselves, their family and society if we provide them with widening educational and career opportunities. Counselors who are members of NAIEC can be in the center of the stage among the helping professions. The privileges and responsibilities before us have never been greater. Too often we ask questions with almost the childish belief that somehow the answers will make life simpler. Many times, however, it is just the other way around - answers make life more complex. Good answers seldom settle issues. They merely raise new ones, leading the way to additional facts, further possibilities and new questions. The more fundamental the question, the more likely it is that we have to consider new thoughts and face new realities.

Let me quote Aldous Huxley’s childish but penetrating question. “What are people for?” Manpower predictions are designed to tap the pulse and direction of an exciting dynamic world. In making these predictions, we are saying to our youth: “This is where you may be needed. People today can make a contribution to themselves, their families and society. This is where things will be happening. You can
have a piece of the action." We have tried to offer a glimpse of the future. But, ultimately the future belongs to those who have the courage to grab a fistful of tomorrows and shape the future. If we, both as parents and counselors, instill this courage in our children, we will have left them a priceless legacy. The new marriage of industry and education represents the cutting edge of new breakthroughs in the world of work. It can help people maximize their assets in their manner of earning a living, and living a creative and satisfying lifestyle. The career education program of McCormick and Company in Baltimore, Maryland is just one of the many successful, cooperative programs between industry and education.

A portion of the Sanskrit reads, "Yesterday is already a dream and tomorrow is only a vision, but today well-lived makes every yesterday a dream and every tomorrow a vision of hope." This may serve as our emerging perspective on career guidance and the changing world of work.

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