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ABSTRACT

A model is presented in this paper for opening the doors between the educational system and the larger community to an effective career education program which would prepare graduates of the 1980s to move directly from the classroom into jobs. Topics discussed include the following: (1) the youth employment crisis and how business and government respond, how the public schools respond, some approaches to career education (career awareness, career discovery, and career emphasis), how postsecondary schools respond, and the need for a cooperative response; (2) trends in the job market of tomorrow, including computerization, more white-collar and temporary jobs, effects of the knowledge explosion on on-the-job training and lateral management, and impact of resources conservation, including fewer goods-providing jobs, new jobs in conservation technology, and more service-providing jobs; (3) the career education curriculum and its impact on knowledge (task-oriented curriculum, lifelong education, community-based education, and multimedia curriculum), on skills (including thinking and communication skills), and on attitudes (to foster the personal qualities demanded of a future worker); and (4) suggestions for preparing educators and the community prior to implementing the career education program. Sample units are included to provide examples of career education curriculum for various age levels and to exemplify principles discussed in the paper. (TA)

Career Education: An Open Door Policy

By Jeanne Wilson and Patricia Rutan

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JEANNE WILSON

PATRICIA RUTAN

Jeanne Wilson and Pat Rutan have been working together on career education projects since 1973, when they began designing courses and materials for their classrooms in the Indianapolis Public Schools. The sample curriculum outlined in their monograph, *Career Education and English*, was implemented by Wilson at Public School 108 and by Rutan at Shortridge High School. Now, working through universities, both women continue to develop innovative instructional materials and to consult with educational institutions when changes are being tested.

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Series Editor: Donald W. Robinson

The Youth Employment Crisis

Each year approximately 1.7 million American young people leave institutions of formal learning—high schools, trade schools, and colleges—and enter the job market. They are not just looking for summer jobs. They are looking for jobs that support families, allow independence, and insure self-respect. What will they find?

According to a 1977 congressional report on unemployment, they will find themselves joining 3.4 million young people between the ages of 16 and 24 who are already unemployed. In his news conference on March 8, 1977, President Jimmy Carter confirmed that one-half of all unemployed persons in the United States are under the age of 25. What's more, the younger the applicant, the slimmer the chance that he* will find a job.

To educators, parents, and youth alike, the job crisis has come as a shock. Admittedly, things are tough all over. Unemployment rates in general are the highest they have been since the Great Depression of the 1930s. Yet each year's high school graduates have received more vocational training and career education than any class before them. Especially shocked are the graduates of colleges and trade schools who have assumed that post-high school training is the escalator, not to just any job, but to higher-paying and more challenging jobs. After the shock comes anger. If anyone is able to compete for available jobs, it should be these youthful applicants who have just completed 10 or more years of the most advanced (and most expensive) education ever offered by our society.

*For clarity and economy, we use the masculine form of pronouns throughout this fastback when no specific gender is implied. While we recognize the trend away from this practice, we see no graceful alternative. We hope the reader will impute no sexist motives; certainly no sexism is intended. —*The Editors.*

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Are schools to blame for the crisis in youth employment? Have we nurtured a generation of workers who are functionally obsolete in their prime? These questions cannot presently be answered. Experts from the private sector agree with government officials that youth unemployment in the 1970s is occasioned primarily by an overall shortage of jobs. But when more jobs exist, it will be possible to compare the qualifications of today's youth with the demands of the job market. The day of accountability approaches.

Business and Government Respond

In December, 1976, the National Commission on Manpower, representing both business and government, addressed the issue of youth employment and called for the creation of 2.5 million jobs per year through 1980. In the first quarter of 1977, over 1,000 corporations responded with plans for significant increases in capital spending for plants and equipment in order to create new jobs. At the same time, Congress considered seven bills proposing to employ youth in a variety of conservation and community improvement projects.

Federally funded employment projects can help to release the tension of the immediate crisis. Particularly constructive are those programs which provide on-the-job training for "disadvantaged" youth, who face an unemployment rate of 40%—more than twice the rate for youth as a whole. But government projects tend to cause price inflation, at best they are a temporary strategy for the reduction of unemployment. Public works jobs can occupy a percentage of the emerging generation of workers for a time, but they are not designed to provide a lifetime of career opportunity. *The issue of youth employment will not truly be resolved until each year's graduates are able to move directly from the classroom into jobs in the mainstream of the economic system.*

The youth employment crisis of the 1970s demands that business and government create millions of jobs. The goal of placing each graduate in a job during the 1980s requires special effort from the educational system as well. Assuming that a bolstered economy is able to create the necessary jobs, it becomes the business of educational institutions to insure that graduates are qualified to function in those jobs. The question is, *Will the graduates of the 1980s be ready if and when the jobs are?*

The Public Schools Respond

In 1971 U S Commissioner of Education Sidney P Marland made an appeal for a new curriculum that would emphasize preparation for work as a prominent and permanent objective for the public schools He proposed "that every young person completing our school program at grade 12 be ready to enter higher education or to enter useful or rewarding employment " His concept was not simply a new name for vocational education or even an enlargement of the concept of vocational education Nor was it to be implemented at the expense of vocational education Rather, Marland's concept, labeled "career education " called for the integration of career objectives with the objectives of *all* existing courses Unlike vocational training courses, career education would reach every student in every class, showing that each subject is an essential part of preparation for the world of work

A broad cross section of educators and laymen, including business and labor, rich and poor, black and white, urban and rural, enthusiastically supported the concept Since 1971 more than 20 state boards of education have passed resolutions advocating career education, and nearly one-third of all U S school districts have initiated pilot projects In March of 1975 the U S Office of Education issued a policy paper defining career education as "the totality of experiences through which one learns about and prepares to engage in work as part of her or his way of living "

Despite the energetic response, most experimental career education programs have failed to weave career experiences into the fabric of the curriculum As the concept has filtered through the bureaucracy from the USOE to the state departments of public instruction, on to local curriculum supervisors, and finally to teachers, the term itself has often lost its meaning An analysis of existing career projects shows that the majority are designed to teach only *about* occupations and occupational choice, and *not* to prepare young people for careers

Some Approaches to Career Education

Career Awareness Undergirding the variety of current projects called "career education" are three favored approaches, presented alone or in combination The *career awareness* approach generally begins in the lower elementary grades by supplementing the existing

curriculum with a sequence of units designed to provide information about specific careers. There is an abundance of workbooks and other types of commercially prepared materials. Many metropolitan school districts are able to purchase or produce weekly closed-circuit television programs that spotlight an array of occupations. "Career days" are an increasingly popular event, at which representatives of various occupations set up displays and talk with students about their jobs. Many school and public libraries now have a "career corner" where job descriptions and other occupational information is available.

Career Discovery. Some teachers parallel units of occupational data with experiences that enable students to explore their interests, abilities, and values as they relate to occupational decision making. Where this *career discovery* approach is used, guidance counselors often assist teachers in providing values clarification and other activities to assist students in projecting their future financial needs and life-styles. Career data, vocational inventories, and in some cases computer-matching techniques are then used to help students to make career decisions. Unfortunately, most of these supplemental career awareness and career discovery units omit the most essential piece of career information: projections of the future job market. Unemployment may await those students who are led to believe that they can select a job from *The Dictionary of Occupational Titles* rather than from what is available in the marketplace.

Career Emphasis. The third approach, directed more toward career preparation than toward career information, superimposes a *career emphasis* on the existing curriculum. By stressing the future applicability of particular skills, teachers hope to entice students to learn more. Many recently published textbooks place a career context at the head of each chapter and use career-related examples whenever possible. In "career English," practice exercises in grammar and composition are designed to simulate filling out job applications, writing business letters, or composing resumes. "Career math" increases the number of word problems that describe, for example, bankers figuring interest, clerks making change, farmers weighing grain, and carpenters figuring square feet. In science either the teacher or the textbook may explain how basic principles and procedures can be applied in health careers, in agriculture, in pollution control, or in the production of consumer

goods While the superimposition of a career emphasis can increase career awareness; it does not close the gap between what students learn in school today and what they will need to know as workers tomorrow. The old curriculum in new trappings is, after all, still the old curriculum

Increased Vocational Training Recognizing the superficiality of their career education programs, many school districts have reverted to methods of updating and revitalizing their vocational education programs Unlike career education attempts, which have had the general aim of informing *about* careers, vocational education is specialized training for specific jobs In an attempt to keep up with changing technology, some schools have even installed simple computer systems Still, the training that high schools can afford to provide is not sufficient to qualify graduates for technical jobs working with business and industry's sophisticated equipment The schools, dependent on tax dollars, cannot keep pace It is unreasonable to expect that high schools will ever again be able to provide on-campus vocational training for the majority of jobs

Postsecondary Schools Respond

Elementary and secondary schools do not face the loss of public confidence alone Residential colleges, two-year community colleges, trade and technical schools, and the armed services are also being called to account When jobs are hard to find, or when high schools do not provide adequate career preparation, parents and school counselors often advise young people to "further their education " And when students move on to other educational institutions, the burden of preparing them for the world of work moves with them

Much to the chagrin of those who assume that a job comes with a diploma, colleges have been reluctant to pick up this burden According to Caroline Bird's *The Case Against College* (1975), the majority of professors in the liberal arts regard any attempt to shape the curriculum to meet the demands of the labor market as deplorable, if not an infringement on academic freedom Their concern is for a subject's "intrinsic value" and not its "marketability " College placement officers report that when professors are pressured to provide career guidance, they often recruit majors to their

fields with descriptions of courses that relate to, but do not qualify them for, the jobs they have in mind. Thousands of socially concerned youths of the early 1970s majored in psychology and sociology, only to discover at graduation that their B.A.s do not qualify them as psychologists, counselors, social workers, or paid social reformers.

On college campuses news travels fast. Undergraduate liberal arts students and incoming freshmen are increasingly aware of the employment crisis confronting recent graduates. As one student put it, "There's got to be something besides unemployment staring you in the face . . . but I'm beginning to have my doubts!" They respond by applying to programs bearing occupational titles. Schools of medicine, law, business, and engineering are generally filled to capacity.

While many colleges might wish to divest themselves of liberal arts programs to favor the increasing popularity of occupational programs, they are financially unable to do so. Still in debt from the rapid expansion of the 1950s, they cannot afford to educate engineers at three times the cost of philosophers while both pay the same tuition. On top of it all, professionals are beginning to say that what they learned in these expensive programs has little relation to the tasks they perform on the job. J. Sterling Livingston, professor of business administration at Harvard, has written that there is presently no relationship between a student's performance in school or in management training programs and his success in business.

Without the cloak of prestige that protects liberal arts colleges from public scrutiny, trade schools and community colleges, which exist to provide students with specific marketable skills, are hearing an even more exacting call to accountability. In an attempt to meet the demands of the local job market, many schools are beginning to perform local needs assessment surveys and to involve local employers in the process of matching vocational training with the short-range projections of jobs to be filled. But this system is at best a high-risk investment for both schools and students. It is a race against time that is not being won. Each time an immediate demand is met, schools are left with the expense of unneeded or outdated training equipment. Likewise, unhired graduates have spent their time and money on specific training that offers no alternatives except retraining at their own expense.

Whether it is at the public school, trade school, community college, or college level, educators are faced with the realization that vocational training is not the solution to the youth employment crisis. In 1964 A. R. Kang and J. A. Brownell reported that "if training starts early, it limits theoretic insight, the individual is locked into entry-level jobs, is denied opportunity for advancement and leadership, and is marked for job obsolescence." Now, with a rapidly changing job market, it is possible that a young trainee will become obsolete or unneeded even before he can complete the training and find an entry job. Clearly, the answer is not *more* education, but *different* education.

As business, industry, and government continue to create new jobs, education's day of accountability draws nearer. As the USOE defines it, the kind of career education that can restore public confidence must

1. enable *all* young people—regardless of race, sex, handicap, or minority group membership—to make informed and realistic choices in light of the future job market, and
2. prepare these young people to engage in those jobs that will be available during their lifetimes.

Career education programs that increase career awareness, provide occupational information, and encourage career decision making are only a start. If the job market changes so rapidly that specific, on-campus vocational training is impractical, then we had better reconsider the merit of providing each student with a general education. If supplementing existing general education with career material is not sufficient preparation for jobs, then we had better develop alternative forms of general preparatory education. Certainly there are options other than a futurized vocational education curriculum or a career-oriented general curriculum.

A Cooperative Response

Articulating the weaknesses of the existing curriculum and implementing a new one are two very different processes. Curriculum change can be a very slow process. It often takes as long as 20 years for new data, collected in the field, to effect changes in curriculum content, teaching methods, or administrative style. Before visible

changes appear in the classrooms, new concepts usually filter through government and university research publications, revised teacher and administrative training programs, and updated student materials

Yet if the educational system is to begin by the 1980s to produce employable graduates, it is apparent that advocates of effective career education cannot afford to wait for proposed changes to trickle down through this system To shortcut the process of institutional change, educators need data, support, and expertise from economic resources throughout the community Assistance to educators in designing and bringing a career education curriculum to fruition can come from a wide variety of sources In communities where educators are not committed to career education objectives, the impetus toward change can originate in any sector The local business-labor-industry community, parents and nonparent citizens, the university community, trend-watchers, and even computers should work together with school administrators, board members, curriculum supervisors and consultants, guidance personnel, teachers, and principals to set and reach the final objectives Bringing an effective career education curriculum to life is everybody's business

As the U S Office of Education stated in its 1975 policy paper on career education, "the days of educational isolationism are past It is time that our formal education system join forces with all other segments of the total society in a comprehensive effort to meet the varied and continuing educational needs of both youth and adults." To prepare youth adequately for a smooth transition from the classroom into the world of work, the doors that have traditionally separated the educational system from the economic system—indeed, from the larger community—have to be opened The doors of the schools must be open to permit data and personnel from the larger community to enter into the curriculum-building process, and the doors of the community must be open to provide student access to a wealth of activities and resources that cannot be contained within school walls

The purpose of this fastback is not to convince people that career education is within the domain of the schools The public is mandating that educational institutions prepare youth for the job market Neither is it to articulate the demand for more effective

career education. The concerns of politicians, employers, parents, and young people of the 1970s have been heard. The purpose is to present a model for opening the doors to an effective career education program, and, we hope, to provide a glimpse of what may lie on the other side.

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The Job Market of Tomorrow

The twentieth century's great gift to mankind, advanced technology, has made it easier to do just about anything—with one exception. Changing technology has made it *harder* to prepare for the future, because it has accelerated the rate of change to the point where we cannot assume that the future will be like the past, not even like the recent past.

Educators, like most other people, find it hard to cope with a future that comes crashing into the present with little or no warning. But the fact that the 1980s will not be like the 1970s does not imply that it is impossible to make logical projections into the future. The public, through its demand for career education, has in fact mandated that educators make such projections now.

If the educational system is to succeed in creating a curriculum that prepares today's youth for tomorrow's jobs, then a team of researchers from the school or university and from the surrounding community must identify and use economic and technological trends grounded in the present and rooted in the past to predict future needs. Representatives from the business-labor-industry community, having access to employment data and the ability to interpret it, can assist educators in this effort. Social scientists, guidance counselors, and other trend-watchers from local universities with access to computers or computer projections can provide valuable help.

Beginning with the most current data, each community must analyze the characteristics of the future job market for itself. The following pages in this chapter illustrate how studies being made by experts from government and business might be used to facilitate this process.

Computerization

More White-Collar Jobs. Since the process of industrialization began, it has encouraged the replacement of human labor with mechanical labor, eliminating blue-collar jobs in the process. Yet, as industry has expanded, the overall number of jobs has continued to grow. It was not until 1956 that, for the first time in history, white-collar occupations outnumbered blue-collar jobs. (See Figure 1.) This radical shift had three major causes: technological advancements that allowed industry to increase production without increasing employment, the rising demand for services, and the development of the computer. Now trend-watchers are wondering if computerization will replace white-collar workers just as automation has replaced so many blue-collar workers. The answer is yes-and no.

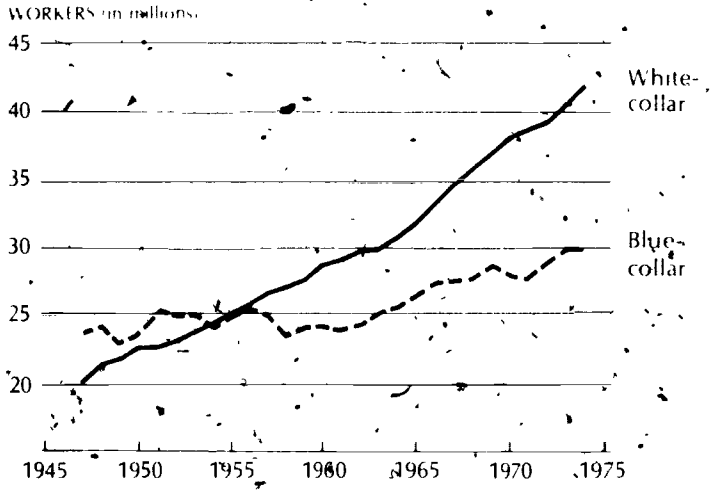

FIGURE 1
Employment Has Shifted Toward White-Collar Occupations

Source: Bureau of Labor Statistics

New Data-Processing Jobs. Computerization has already eliminated many jobs that were previously untouched, or were even ex-

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panded by industrialization. In banking, retail trade, business, and government, computers now carry out many tasks once performed by clerks, bookkeepers, stock boys, accountants, and typists. Computerized record keeping has eliminated countless typists and file clerks in all areas of business and government. In addition, the number of postal workers will be reduced drastically when a proposed computerized national credit card billing system eventually eliminates 70% of all first-class mail.

While computerization is replacing thousands of workers who were involved in the process of storing, processing, and retrieving data, it is at the same time creating positions for key punchers, programmers, computer tape librarians, systems analysts, and specially trained maintenance personnel. Many of these jobs are as yet unfilled because they require new skills that few people have acquired.

More Temporary Jobs. The effects of computers on jobs outside the field of data-processing are less apparent though more far-reaching. One by-product of computerization is the trend toward temporary employment. While businesses once projected their personnel needs over a period of years, the acceleration of change and increased specialization created by computers now make it possible, and economically advantageous, for companies to hire many of their workers for only a few months at a time. Over 500 temporary help agencies now supply employers with an estimated 750,000 short-term workers per year. Already, according to Alvin Toffler in *Future Shock*, nearly one in every 100 workers is employed by a temporary help agency at some time during the year, and temporary help services are rapidly expanding to meet the increasing demand for short-term workers with an ever-widening variety of skills.

Even jobs that are called "permanent" are becoming less so. Computers are beginning to dictate the numbers and types of white-collar workers needed, as they have previously projected the numbers and types of laborers needed. The U.S. Department of Labor reports that American workers have held their current jobs for an average of 4.2 years and that the average 20-year-old is now expected to change jobs six or seven times. It is apparent in light of these statistics, that our concept of "career" will have to change. As new information renders one job obsolete, the worker will move on to

another job that may contain elements of the old but is not the same. Each worker will experience a series of "careers" in a lifetime, and it will be more informative to characterize a worker not in terms of the job held at any one time, but rather by the overall trajectory or pattern that his serial career has made.

The Knowledge Explosion

Though it is impossible to predict all the ways in which computerization will change the job market, one thing is certain. Change itself will be a constant trend. The age of rapid change began in the first half of the twentieth century when the amount of knowledge acquired grew by leaps and bounds. Now the development of computers has accelerated the rate of knowledge acquisition to the point of creating a "knowledge explosion." In 1970, Robert Hilliard, the Federal Communication Commission's top educational broadcasting specialist, said:

> At the rate at which knowledge is growing, by the time the child born today graduates from college the amount of knowledge in the world will be four times as great. By the time that same child is 50 years old, it will be 32 times as great, and 97% of everything known in the world will have been learned since the time he was born.

Task Forces. The amount and the complexity of the information available on every topic imaginable has produced a multitude of experts. But rarely does a real-life problem fall neatly within one of the distinct disciplines into which academia divides knowledge. Thus teams of experts from fields as divergent as computer science and animal husbandry, or mechanical engineering and plastic surgery, are brought together to produce stronger eggshells or design artificial limbs. To solve a problem that requires expertise from several specialties, team members must first be able to analyze the problem. Then they must participate in processing unfamiliar data from other specialties and synthesizing it with their own data. Because each profession has a "language" of its own, the task requires members to "translate" the most crucial information from their own specialties for the benefit of others before a joint solution can be reached. Thus, in addition to high-level thinking skills that enable task force members to grasp the essentials of complex data quickly, each must have the skills necessary for effective communication.

Because the range of problems varies widely, it is more efficient

for corporations or government agencies to hire teams of experts on a temporary basis. Once the particular problem is solved, the members of a task force move on to other organizations where they form new teams to solve new problems. Many such task forces may be employed by a single corporation over a relatively short period. Though task forces began as a way of pooling the knowledge of experts, they are becoming the working style of the future. It is estimated that by the year 2001 nearly 65% of the U.S. work force will be employed on task forces which have short-term objectives.

On-the-Job Training. In 1963 the E.I. du Pont de Nemours Company reported that most operating skills in its plants had a life-expectancy of less than five years. Blue-collar workers whose job descriptions are changed by updated knowledge often find that a new machine or technique is like its forerunner only in that it results in the same product. Similarly, most white-collar workers are retrained at least once every 10 years, according to management expert Peter Drucker. Responding to the pressure of this rapid change at all levels, many companies have instituted instructional systems within the corporate structure.

When on-the-job training is accepted as an integral part of personnel management, the job market is affected in two ways. Initially, the very existence of in-house training schools creates jobs for teachers and administrators who specialize in adult education. But the most pervasive consequence is the across-the-board change in hiring practices. Whereas applicants were formerly evaluated on the basis of specific skills they brought to the job, their flexibility and general willingness to shift from one task to another is now a primary consideration. In this market the quick study has an advantage over one whose learning takes longer.

Lateral Management. Not even upper-level management, whose entrenched positions in bureaucracy have traditionally kept it at a safe distance from the edge of change, is immune to the effects of the knowledge explosion. In the past, when technology precipitated changes in operations and personnel at the factory level and caused fluctuation in the market for skilled labor, the task of management remained the same: to routinize the new operation and to incorporate it into the total structure. This process anticipated problems that would arise and built solutions into the overall plan. Experience in making decisions that successfully applied this organizational pro-

cess was the basis for promotion and authority within the bureaucracy and gave job security to top-level management

In recent years the knowledge explosion has accelerated the rate of change to such an extent that it is rarely possible to successfully apply either the bureaucratic process or prior experience to the solution of problems. As industry becomes more automated, the number of nonroutine problems rises while the need to avoid expensive delay becomes more critical. At the factory level there is a demand for more information at faster speeds than the vertical bureaucratic hierarchy can deliver it. Decision making must take place more and more frequently at the source of the problem, and lateral communication between workers on parallel levels in the chain of command increasingly supplants the traditional communication through vertical channels.

Resource Conservation

For more than a decade, people with their eyes on the future have been deeply concerned about the ways in which ever-expanding industrial growth disturbs the ecological balance and depletes the supply of irreplaceable natural resources. But it was not until the energy shortage began to increase the price of gasoline and to lower the temperature of furnaces, to close schools and factories that the majority began to take seriously the early warnings of impending disaster. Now that energy conservation is a national priority, Americans are being asked to prepare not just for the future, but to take part in creating an alternative future. Some studies warn that, unless we succeed in turning the trends now, the future we face is no future at all.

In 1970 one such study was commissioned by the Club of Rome, an organization of international business and scientific leaders whose purpose is to explore the major problems confronting global society. A team of international scientists built a computer model that simulated the major ecological forces presently at work in the world and projected the effects of increased production, expanding population, pollution, and resource depletion into the future. The results were published in the book *Limits to Growth*. *Time* magazine summarized these findings in early 1972 as follows:

> As industrialization grows, it voraciously consumes enormous amounts of resources. Resources become scarcer, forcing more and

more capital to be spent on procuring raw materials, which leaves less and less money for investment in new plants and facilities. At this stage, which might be around 2020, population outstrips food and the industrial products. Because of the lack of health services and food, the world's population dwindles rapidly . . .

Unable to accept the finality of the computer's prognostications, computer expert Dennis Meadows of M I T. postulated some of the variables that the future might produce. The *Time* summary continues:

> He assumed that there are still huge undiscovered reserves of natural resources, say, under the oceans. Testing that possibility, Meadows' computers showed that industrialization will accelerate—and the resulting runaway pollution will overwhelm the biosphere. Might not new technological devices control pollution? Sure, says the computer, but then population would soar and outstrip the ability of the land to produce food. Every advance in technology consumes scarce natural resources, throws off more pollutants and often has unwanted side effects, like creating huge and unmanageable unemployment. What if pollution was abated, the birthrate halved, and food production doubled? The readouts are no less glum. There would still be some pollution from every farm and factory, and cumulatively it would still trigger catastrophe. After running thousands of such hypotheses through the computers, Meadows sums up his conclusion tersely: "All growth projections end in collapse."

On an almost daily basis, the reports of environmentalists, energy experts, and economists confirm the gravity of the need for resource conservation. International concern for the future has been evidenced by such events as the World Food Conference of 1974 and Habitat '76, an international exhibit of model communities that are accepting the challenge to live creatively amid change. The more optimistic futurists feel that, in all probability, this concern will materialize as a global policy for the controlled use of natural resources, which in turn will lead to the limited production of goods. Once the demand for resources exceeds the supply, exorbitant prices will enforce the trend toward conservation, even if world policy doesn't.

Fewer Goods-Providing Jobs. Recent trends in the American economy are already beginning to reflect limited production in response to the depletion of natural resources. Beginning in 1974, the nation found itself in the midst of the most severe economic recession since the Great Depression of the 1930s. This downturn

resulted in a sharp drop in the gross national product, rapidly climbing unemployment, and price increases that, in combination with further automation, is limiting the number of traditional labor jobs.

While it is not likely that the total number of jobs in manufacturing will actually diminish, the U.S. Bureau of Labor Statistics projects only marginal growth in the demand for skilled and semiskilled machine operators. (See Figure 2.) As production levels off, the number of jobs for semiskilled and unskilled workers who inspect, package, crate, ship, and handle manufactured goods is also restricted. When limited production finally places a ceiling on the volume of merchandise available to retail business, the slowdown in employment is projected to reach the sales-related jobs as well. While the limiting of production is only beginning to affect the job market, it is clear that the seeds of the future have been sown. When business and industry create new jobs, only a few of them will be part of the goods-providing process.

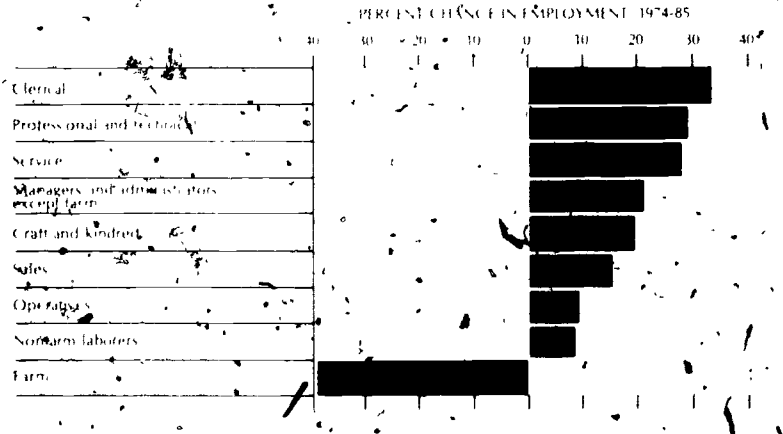

FIGURE 2
Employment Growth Will Vary Widely Among Occupations Through the Mid-1980s

Source: Bureau of Labor Statistics

New Jobs in Conservation Technology Though the trend toward

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conservation of natural resources, especially petroleum, restricts the creation of production jobs, it gives rise to new opportunities. The largest expansion is expected in technical and professional jobs (See Figure 2.) When fewer goods are produced, it becomes more important that they are designed to last longer, are more easily repaired, and consume a minimum of energy. Developing a technology that is both energy-efficient and environmentally safe requires a battery of engineers, applied scientists, and technical assistants at all levels of sophistication. While scientists are paid by industry to look to the sun and other potential sources for the energy of tomorrow, business administrators are eager to hire managers and efficiency experts who can eliminate waste.

Not all jobs in conservation go to the professionals. As the price of new merchandise goes up, skilled and semiskilled workers who can repair, remodel, restore, and rebuild are in greater demand. The process of reclaiming and recycling used materials of all kinds provides jobs for many workers who might formerly have sought production jobs.

More Service-Providing Jobs. Like computerization, conservation measures tend to change work rather than eliminate it. While this fact may be gratifying to the 40% of America's population currently engaged in paid work, it is not helpful to the millions of others who are or will be seeking employment. If America hopes to continue to employ 40% of its population, millions of new jobs must be created each year. Obviously, limitation of growth in goods-providing industries blocks the creation of new jobs. If the jobs yet to be created are not to be found in manufacturing and related industries, then where will they be found?

Statistics from the U.S. Department of Labor, as reported in the *Occupational Outlook Handbook, 1975-1976 Edition*, show a trend toward an increase in the number of jobs in service-producing industries and in government. (See Figure 3.) As the population continues to grow, and as urban centers develop and become more complex, the number of workers needed in all aspects of government, transportation, education, communication, maintenance, child care, and health care increases. But not all service industries deal in necessities. Among the most rapidly growing are those that provide food services, recreation, and entertainment. By increasing the number of people who work with people rather than

with things, it is possible to create jobs and still stay within the limits to growth

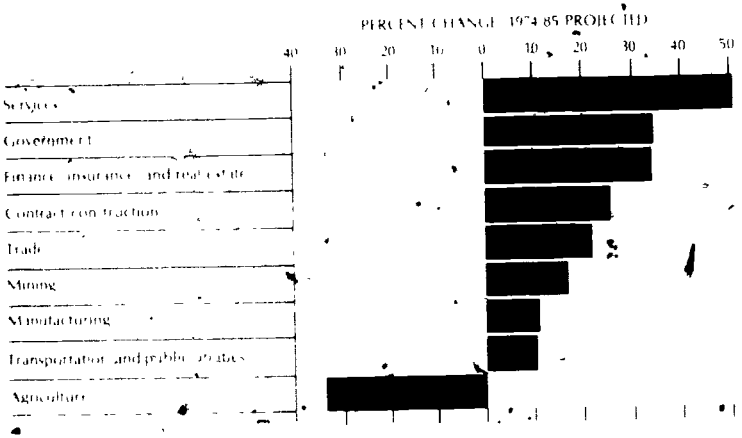

FIGURE 3
Employment Growth Will Vary Widely By Industry Through the Mid-1980s

Source: Bureau of Labor Statistics

Projections made for the 1980s show clearly that more opportunities will be open to white-collar workers than to blue-collar workers. The spotlight is definitely on the professional and technical occupations. If every student is to be prepared to participate in paid work, then educators will have to provide a curriculum that prepares a large percentage of today's students for the white-collar, service occupations. That curriculum must also prepare students to deal constructively with constant change. Such a curriculum will *itself* be subject to change as educators and community support groups learn to analyze and reanalyze the trends of the present in order to prepare young people for the future.

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The Career Education Curriculum

> The technology of tomorrow requires not millions of lightly lettered men, ready to work in unison at endlessly repetitious jobs; it requires not men who take orders in unblinking fashion, aware that the price of bread is mechanical submission to authority, but men who can make critical judgments, who can weave their way through novel environments, who are quick to spot new relationships in the rapidly changing reality. It requires men who, in C. P. Snow's compelling term, "have the future in their bones."
>
> —Toffler, *Future Shock*

The components of curriculum are what fill every educator's tool bag. If the appropriate tools for the task are to be created and/or selected, then educators must begin with a clear image of the finished product: the employable graduate, the graduate who is prepared for new, sometimes unheard of jobs that are being created all the while. But projecting that image in an age of rapid change is not easy. Because these graduates are yet to be created, and because they will be different from workers of the past, educators must carefully avoid incorporating old stereotypes into the new image.

Like Alvin Toffler, career education advocates can create a composite picture of the employable graduate by inferring worker traits from ongoing occupational trends. Then, using the list of worker traits as a context, curriculum builders can analyze and evaluate potential curriculum components, selecting those with the capacity to prepare students for the world of work. This method of developing a curriculum demands that educators go beyond the study of their own disciplines and beyond the analysis of general trends. It asks that they synthesize the teaching potential of each subject with the traits required of future workers. If these research and develop-

ment steps are methodically completed, what will emerge is an *intrinsically* relevant curriculum, a curriculum that embodies the knowledge, skills, and attitudes of the employable graduate, a curriculum with "the future in its bones"

On Knowledge

Examining the various components of the traditional curriculum, we find one ever-present assumption that the primary purpose of formal education is the transmission of a finite body of knowledge from educators to students This assumption has led to the division of knowledge into disciplines where the content has been further divided into subjects and courses designated for "coverage" by students of a specified age within a given amount of time. As defined by this system, an educated person is one who has retained the body of knowledge transmitted to him in the form of readings and lectures A person's degree of retention, and hence the extent of his education, can be determined by scores on oral or written examinations like the familiar standardized achievement tests

The traditional system does produce many graduates who are educated according to the system's definition The present conflict, then, is not within the educational system but between that system and the rest of life Since college graduates, the ultimate product of this system, report that the appropriate degrees have not prepared them adequately for their jobs, it becomes increasingly apparent that the educational system of the present is not satisfactorily preparing the young people who will work and live in the future

The forms that served the young nation and the growing industrial society are no longer adequate preparation for today's postindustrial world A curriculum built on assumptions derived from observations of the past loses its validity when checked against the grid of the future While schools continue to produce people who "know," the job market is also asking for people who have skills and style of "doers"—people who can communicate with others, who can manipulate data, who can find and solve problems, who can use data to make decisions

Employers realize that computers can out-memorize any person and that the knowledge explosion makes the personal acquisition of bodies of information a meaningless race against time They also lize that knowing is not the only prerequisite for doing Educators

who can accept these realities understand that additions to or alterations in the present curriculum will not stop the growing vocational crisis. They realize that a career education curriculum must begin anew with realistic assumptions about knowledge and about the role it plays in educating employable graduates. It is out of these new assumptions that the form and substance of the new curriculum emerges.

Task-Oriented Curriculum Just because the knowledge explosion makes it impossible to learn everything, it cannot be inferred that it is useless to learn anything. Though students may remember only generalizations and impressions after the details have faded, still it is important that those generalizations be rooted in fact. Often, it is upon generalizations made during youth that people build models for their behavior and make decisions about the future. The career education curriculum is itself built upon generalized characteristics of the future that stem from observable facts about the present.

Following the example of the working world, the career education curriculum simply allows knowledge to resume its vital role as a *tool* of the human mind. When knowledge is experienced as something to use rather than something to learn, students more willingly acquire the most frequently applied general knowledge. Career education is founded on the assumption that *knowing is the beginning and not the end of the learning process.*

Thus to say that students will learn content is not to say that they will be given information to memorize out of context. It is possible for students to acquire knowledge in the process of completing a task. In fact, current research into the nature of learning indicates that learning is most transferrable when acquired in the process of discovery. Jerome Bruner, in *The Process of Education,* explains this by saying that material learned during the process of doing a task "is organized in terms of a person's own interests and cognitive structures" and therefore "has the best chance of being accessible to memory."

Career education enables students to experience knowledge as a tool because its curriculum is a sequence of tasks to be undertaken rather than of subjects to be learned. Task-oriented learning is the process of building models and testing them and of doing real-life activities. It is the process of growing vegetables, building museums,

writing books, teaching the class next door, creating documentary films, safety-testing consumer goods, and solving community problems. It is not the same as inquiry learning, which leads to planned discoveries and predetermined answers. By comparison, the task-oriented curriculum is composed of tasks that are *real* rather than "dummy"—tasks that engage students because they have an immediately recognizable meaning and purpose.

Paradoxically, a curriculum that is task-oriented rather than subject-oriented does a better job of teaching content than a curriculum that focuses directly on content. Shirley Engle and Wilma Longstreet explain why: "From the moment of birth, the individual is engaged in organizing and classifying his experiences in the effort to make sense of the world about him. He sees the world as a series of questions, topics, and problems, not as disciplines which are categories contrived by scholars to achieve knowledge free from time and place."

Lifelong Education. Acquiring knowledge in the process of performing a task not only insures more permanent learning, it is also a more honest way of experiencing knowledge. When a curriculum is subject-oriented, it creates the illusion that knowledge is static rather than dynamic and that the acquisition of a certain amount of knowledge will sustain a person for a lifetime. Students who assume that the teacher or the textbook know *all* about a subject are doomed to disillusionment when the six o'clock news contradicts that morning's lesson.

By contrast, career education students are frequently confronted with problems for which the teacher has no ready-made answer. The task-oriented curriculum is as open-ended as the body of knowledge and as life itself. Students who learn content in the context of a task realize that *the value of information is dependent upon the degree to which it describes reality and not upon who proclaims it.*

When students develop the habit of reality-testing data, they simultaneously accept the fact that education is a lifelong process. In an age when reality changes rapidly, our assumptions about the world must continually be tested. Students who have learned to value knowledge as a function of its utility will be workers who not only accept but anticipate retraining whenever new information can improve their ability on the job.

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Community-Based Education Career education students are task-oriented reality-testers who outgrow the confines of the classroom and the schoolyard at an early age For these students the community, indeed all of reality, is the necessary learning laboratory. Already, some colleges offer credit for "action-learning" done off-campus in real work situations The University Without Walls, headquartered at Antioch College in Ohio, is a nationally sponsored prototype for off-campus education Following this example, secondary and even elementary career education curricula can include units of community-based education

Younger students begin with frequent excursions and "real-world" projects directly supervised by their classroom teachers. They might take opinion polls, entertain at a home for the elderly, or visit their parents at work In-class work from all subject areas is imaginatively linked to the task at hand Taking an opinion poll is, for example, an opportunity to write and speak the English language, to exercise math skills, and to participate in several of the social sciences *The career education process is like the world of work in that most tasks demand the synthesis of several subjects and emphasize the interrelatedness of all disciplines*

As students mature they spend more and more time in the community and assume more of the responsibility for selecting and designing their own action-learning projects In the final stages the classroom becomes a place to gather occupational information, reflect on experiences, cement new learning, and make new career decisions Both the teacher and fellow students can help the individual evaluate past experiences and find new directions. After each community-based work experience students are in a better position to discover their true vocations or callings and to select an action-learning project that more closely coincides with their long-range career plans—plans that their teachers, guidance counselors, on-the-job advisers, and parents can help them to make

School systems using the community as a school are significantly affected in two ways First, the function of many teachers changes from instructing to coordinating community resources with student needs and guiding students in the process of career planning Second, community-based education offsets the high cost of quality vocational education by making use of existing equipment, facilities, and noncertified personnel from the business-industry-labor

community. *Using community resources not only avoids wasteful duplication, it also gives students the opportunity to work and learn beside adults under real-life conditions.*

Multimedia Curriculum. When students cannot go to the community, the career education curriculum can bring the community, even the world, to the classroom. To the career education teacher, the whole world is a library of teaching aids. Guest speakers, films, records, art, magazines, computer print-outs, and objects of all sorts make frequent appearances in the classroom. The teacher and the textbook may be the least-used sources of knowledge. Teaching students to watch and listen actively to mass media presentations is particularly important in preparing them for future jobs. By combining sensory impressions, television and films are able to simulate life.

In addition to heightening student interest, *using a variety of media provides the student with alternative strategies for acquiring and expressing knowledge.* Rocket propulsion, for example, is generally a topic for empirical study in the science laboratory, but viewing a firing rocket through the art of motion picture photography becomes an aesthetic experience. The same topic studied in a history book can be an experience with synaptic or relational thinking, as the event comes out of isolation and is recognized as a happening that both caused and was caused by other events. Or, should rocket propulsion become the topic of a poem, it may be interpreted as a symbol of power.

As students become actively involved with many different media, they can see that everything in the universe is a tool with which man learns, communicates, and creates—indeed, that neither all the questions nor all the answers are in the book.

On Skills

Task-oriented education is *not* units of facts and theories to be applied after graduation, and it is *not* the practice of skills to be used later. It is a curriculum designed to make use of the students' knowledge and energy in the here and now.

Just as career education differs from traditional education in its assumptions about knowledge, it differs from vocational education in its assumptions about skills. Vocational education trains students to perform specific skills that apply to specific jobs; career education facilitates the development of the fundamental skills with

the broadest applicability to the future job market This is not to discredit vocational education Rather, it is a way of distinguishing between the two Career education assumes that vocational training can best be done on the job, where instructors and equipment are up-to-date! It assumes that the function of on-campus public education is to produce adaptable students who are easy to train and retrain because they have acquired the basic skills that transfer from one task to another When career education precedes vocational training, students are protected from obsolescence by virtue of their understanding that specific skills are variations of general skills

While knowledge is virtually infinite, fundamental skills are limited. It is possible, even likely, that a task-oriented curriculum will include enough tasks to cover the use of all the fundamental skills. And it is important that a career education curriculum intentionally include a multitude of tasks that consistently reinforce those skills that will be required of the majority of future workers These essential skills can be deduced from a functional analysis of occupational trends

The Dictionary of Occupational Titles conveniently divides all possible worker functions into three categories data-related, people-related, and things-related Each category is further divided into specific functions which are listed in the order of difficulty, where "0" is the most complex function and "7" the simplest If we look at the vertical list of worker functions in Figure 4, we can see that copying data (5) is simpler than synthesizing data (0), that serving people (7) is less complex than instructing people (2), and that tending a machine (5) is simpler than setting up a new equipment system (0). (See Figure 4)

Figure 4 lists the 10 occupational trends isolated in Chapter 2 across the top and the D O T categories down the left side The sign (+) indicates an increase in demand for workers who can perform the designated function The sign (-) indicates a trend toward limited demand for workers who can perform that function. Empty boxes mark functions bearing no relationship to dominant trends A general measure of the change that will occur in the demand for each function is represented by the numbers in the vertical column on the right It is from the (+)s on this chart that the skills characterizing future jobs and the career education curriculum can be inferred

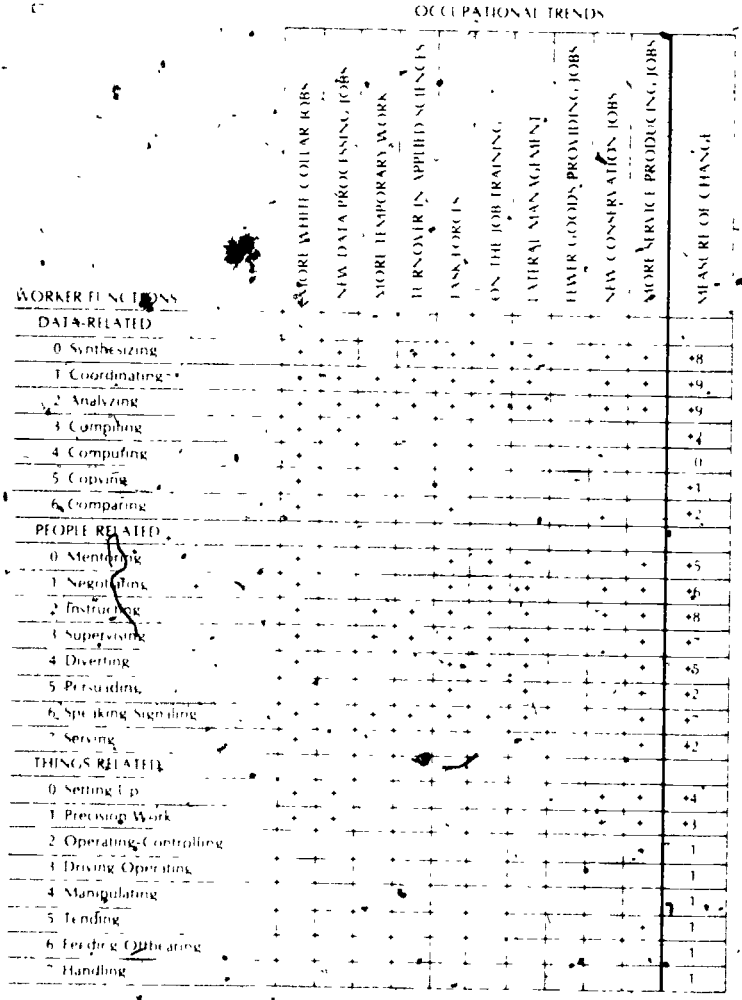

FIGURE 4
An Analysis of Occupational Trends by Worker Functions

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Thinking Skills Even a cursory glance at Figure 4 attracts the eye to the cluster of (+)s across the top three rows of data-related functions synthesizing, coordinating, and analyzing In educators' terminology these functions require fundamental thinking skills: finding relations, ordering time and space, linking cause with effect, identifying similarities and differences, making inferences and generalizations Traditionally, these skills have not been emphasized in the curriculum until the high school years Even then, most high school activities have placed primary emphasis on use of lower-level thinking skills like memorizing, compiling, sorting, and arranging data. When the advanced thinking skills have been required, it has generally been to manipulate mathematical or scientific abstractions outside the context of reality

Many educators seem to doubt that advanced thinking skills can be mastered by all mature students, let alone students of all ages. Jerome Bruner, among others, does *not* doubt He says, "The task of teaching a child at any particular age is one of representing the structure of that subject in terms of the child's way of viewing things—translation" In order to develop a sequence of tasks that accomplishes this kind of translation, educators need to understand and recognize the levels of intellectual development through which children pass. Only then will the tasks assigned "hook up" with the children's way of viewing the world at a given age

Jean Piaget and other researchers in child development find it useful to divide intellectual development into three stages the preoperative stage, the stage of concrete operations, and the stage of formal operations At all levels of schooling, the task-oriented curriculum is sequenced to move students from one level of intellectual development to the next At any age, any group of normal children will vary within limits in intellectual level Therefore, the most effective tasks are multilevel When students perform such tasks in groups, they learn more from one another than from a teacher It is also important to vary the level from task to task so as to stimulate the students to advance, on the one hand, and to provide security on the other

In the preoperative stage, children learn to make generalizations about similar things on the basis of their personal relationship to those things It is a time of learning to manipulate objects and language by trial and error This kind of learning occurs when a child

pushes a cookie down into a glass of milk and discovers a principle of physics. Many children are in the latter part of this preoperative stage while in kindergarten and first grade; others of the same age have moved into the stage of concrete operations. Consequently, it is essential that the curriculum for the very young be a combination of free play and structured tasks. During play, children handle objects and relate to one another, during structured tasks, they acquire and apply new knowledge and skills, like measuring, sorting, drawing, describing, and story-telling.

The majority of children remain in the second stage of development throughout the elementary grades. In the stage of concrete operations, children learn to take collections of their observations about the world and rearrange them mentally to create new ideas. Because they can manipulate symbols internally, they have no need to use trial-and-error manipulation of actual objects to solve problems. Their understanding is intuitional and must be grounded in their concrete observations of life.

This is the reason all tasks in the elementary curriculum are taught out of the children's immediate context. The tasks are sequenced to include experiences that continually broaden the scope of their data about the world. As their knowledge increases and as they are presented with more complex situations, their manipulative skills increase proportionately. John Gibson calls this the "near-to-far" methodology and uses it to teach the governing process to fourth-graders in a lesson that moves from home to school, city, state, nation, and world.

Finally, between the ages of 10 and 14, most children reach the stage of formal operations where they learn to think abstractly. At this point, the study of formal disciplines becomes comprehensible and relevant. It is the time to "pull back the curtain" and ask students to abstract the axioms from their own intuited generalizations about reality. Hence it becomes effective to relate tasks to formal study and to parallel off-campus task assignments with extended units of abstract study during junior high and early high school. As tasks demand the skills of more complex research and experimentation, the classroom becomes a source of support for extended community-based action-learning. This is, in effect, a carefully coordinated work-study program.

During the last two years of high school and on into post-high

school studies, some forward-looking students may even elect to study disciplines that relate to their future career goals, but not to their ongoing work experiences. For career education this is the ultimate victory, for these students have found a reason for learning that does not depend upon an assigned task. They are creating their own practical context for acquiring knowledge and skills—a context that grows out of a task to be done in the future. They have bridged the gap between the manipulation of theory and reality. They have learned to analyze, coordinate, and synthesize.

Communication Skills. Returning to Figure 4, the eye focuses on a second cluster of (+)s that run the gamut of people-related functions: mentoring, negotiating, instructing, supervising, diverting, persuading, speaking-signaling, and serving. All of these functions require language skills: speaking and listening, reading and writing. The fact that language plays a major role in career education should not surprise anyone. Without language, thought has no form or substance.

Throughout American history, formal study of the English language has been the cornerstone, the very foundation, of curriculum. Traditionally, reading and writing have been taught before all else. However, when curriculum responds to the dictates of occupational trends rather than to academic tradition, the role of language shifts. In the career education curriculum students experience the acquisition of language skills as a means of accomplishing a specific task and *not* as an end in itself.

Realizing that language skills are one group among several groups of simultaneously applied skills does not diminish their importance to the learning process. Every task in a career education curriculum affords an opportunity for students to use a combination of language skills. The very fact that these skills are immediately useful motivates students to acquire them faster. For many students, reading, in and of itself, is not a justifiable use of time and energy. But reading to locate vital information for a display on poisonous spiders or to learn how to repair a bicycle is. Similarly, learning new words just to learn new words may seem a waste of time, but learning new words to win a game of Scrabble or to understand how to make origami corsages for Mother's Day may be important. All the traditionally taught language skills can also be taught in a task-oriented curriculum simply by linking practice exercises imaginatively to the

task at hand. Spelling words are abstracted from a list of flowers to be planted in the school yard. Lessons in grammar and composition arise naturally out of the decision to write letters to Santa Claus, the President of the United States, or the "Six Million Dollar Man."

Unlike the traditional curriculum, the career education curriculum does not emphasize reading and writing skills to the exclusion of listening and speaking skills. Reflecting on the characteristics of highly employable graduates, career education does *not* make the assumption that listening and speaking skills develop naturally. The ability to communicate ideas and feelings effectively, as well as the ability to listen and respond perceptively to others, has long been an asset in personal and social situations. Now, with the number of service occupations and task forces increasing, the majority of jobs will require interpersonal skills. Accordingly, a career education curriculum devotes considerable time to tasks that require oral communication skills.

On Attitudes

It is tempting to declare the design for an open-ended, task-oriented career education curriculum complete after describing methods of facilitating the acquisition of knowledge and the development of skills required by the labor market. But that declaration would be premature. Employable graduates must also be equipped with attitudes that will enable them to survive in an age of constant change.

The idea of facilitating the development of selected attitudes in the classroom, while still controversial, is also one of education's oldest and most universal traditions. The respected American educator, John Dewey, may have reiterated Socrates's thoughts when he wrote, "The child's moral character must develop in a natural, just, and social atmosphere. The school should provide this environment for its part in the child's moral development." The unavoidable reality of life is that education, whether it is career education or some other kind, is inextricably bound up with attitudes simply because attitudes are inseparable from human beings.

Wherever systems of reward and punishment are used to reinforce or extinguish particular behaviors, attitudes are involved.

Whether the rules concerning attendance, punctuality, grading, standards of behavior, and other institutional mechanics are written or "understood," every school models a certain set of values through its mode of operation. The choice, then, is *not* between educating for specific attitudes or not educating for specific attitudes. The choice is to educate for attitudes either intentionally or haphazardly.

Thus even if attitude education were left to chance, a career education curriculum would automatically impart to students a given set of attitudes about work, life, and the future. The essence of the disposition derived from the career education experience is rooted in the authentic nature of the curriculum. The career education classroom is not a place that simulates the world of work, it *is* the world of work. All of the knowing, all of the thinking, and all of the communicating are for observable purposes.

The sense of immediacy and total involvement that comes from dealing with realities can permeate both the classroom and the institutional structures of the career education system, affecting all of the interactions between students and educators. When students are actively engaged in tasks to which they attach significance, they learn self-discipline and responsibility within the context of the task. Behaviors like punctuality, active listening, cooperation, and attention to detail become important to the students because these behaviors enable the class to accomplish the task.

The authenticity of a career education curriculum can be a two-edged sword. While the element of involvement naturally inspires the development of good work habits, it also exposes young people to many of the tensions and anxieties, frustrations and distractions of adult workers on the job. For this reason, a career education curriculum includes an intentionally designed and constantly applied style of discipline that fosters emotional growth. Whether a problem arises in the classroom, in the hallway, or in the school cafeteria, the task of solving behavioral problems is actually a part of the curriculum. The ultimate goal of career education is to produce graduates who have not only the knowledge and skills but also the personal qualities that the future demands of a worker.

The Decision Maker. Returning once more to Figure 4, a third observation can be made. In each of the three categories—data-related, people-related, and things-related—the worker functions that are subject to the most growth in the future job market are the

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more complex rather than the simpler functions, synthesizing, coordinating, analyzing, negotiating, instructing, supervising, setting up and precision working. In *The Dictionary of Occupational Titles'* specific descriptions of these functions, certain key words appear and reappear—words like "judgment, solutions, principles, policies, responsibility, and decisions." According to the trends, the future is wide open for graduates who have the wherewithal to decide and act.

At first glance the ability to make decisions seems to be more closely related to the use of thinking skills than to the acquisition of specific attitudes. Indeed, thinking skills play an essential part in the decision-making process. Yet thinking skills alone are not sufficient for the task of making judgments or establishing policies. Many "well-educated" people avoid making decisions because they do not want the responsibility.

The career education curriculum uses occasions where discipline is needed as an opportunity to expand the student's sense of responsibility and increase his self-confidence. The task of solving real, ongoing behavioral problems is the mutual responsibility of student and teacher. The teacher's role in this process is threefold: 1) The teacher avoids complaining and blaming in order to demonstrate the role of someone who is able to decide to act constructively within the given situation; 2) the teacher objectively confronts students with observations of their behaviors that are hindering rather than helping the group to complete its task, and 3) the teacher helps the students to plan and implement helpful behavioral styles. When students have decided that a task has real significance, they are eager to help the teacher to formulate and enforce rules to insure the successful completion of that task. Recognition of the natural consequences of their actions helps students to decide how they will act. The more consequences of which they are aware, the more appropriate their actions are likely to be.

Following up on research begun by John Dewey and Jean Piaget, Lawrence Kohlberg, director of Harvard's Center for Moral Education, has recently asserted that the ability to appreciate the consequences of one's actions is universally acquired through a developmental process with six identifiable stages. Each stage is described as a logical structure that students may apply to a given situation requiring a moral judgment. At each stage students are increasingly able to

recognize more far-reaching and more long-lasting effects of their decisions. Values educator Merrill Harmin highlights each stage with a descriptive title and a sample remark that captures the style of thinking.

For example.

Levels of Consequence Awareness

Preconventional

Stage 0—Unaware of consequences

"I just did it because I wanted to"

Stage 1—Punishment and obedience

"I don't want to get into trouble"

Conventional

Stage 2—Self-interest

"I helped you. Now you should help me"

Stage 3—Mutual approval

"Sally was trying to help even though she messed up the project"

Stage 4—Stability of social structure

"We've got to have law and order in this group"

Postconventional

Stage 5—The social contract

"We should all cooperate and decide what is best"

Stage 6—Universality and interdependence.

"What I decide to do with my life will affect all other living things"

The continuous use of traditional reward and punishment systems of classroom management often causes students to remain "stuck" at Stage 1 of consequence awareness. Yet occupational trends indicate that the most employable graduates are those at Stage 5, who have the presence of mind to find new exceptions to old rules and to agree on new policies when old ones won't do. Just as the career education curriculum orders or arranges tasks to keep pace with the students' intellectual development, it also arranges discipline techniques to keep pace with their potential for developmorally. Whenever students are deciding how they will act,

the career education teacher encourages them to consider consequences that are just one stage beyond their grasp

Career education students also experience the role of decision maker while participating in the process of selecting tasks which merit the expenditure of their time and energy The career education curriculum begins by offering young students choices within the task "Should we draw the pictures or paint them? What stories would the kindergarteners like to hear us tell?" Once students develop the ability to conceptualize projects, they are included in the task of brainstorming possible projects or ways of approaching tasks within a project By the junior high years students are able to work as teams following a model for preparing and submitting proposals for class, group, or individual projects In high school students begin to formulate long-range career plans, to test them through community-based learning experiences, and to redetermine career goals on the basis of their experiences In the words of Thoreau, "It is not enough to be busy. The question is What are we busy about?"

Risk Takers Though the distinction is not often noted, the style of the future requires that the employable graduate be a risk taker as well as a decision maker The ability to make judgments, reach decisions, and design procedures is one process, the ability to implement the consequent changes is another It doesn't take psychologists to tell us that it is normal to experience anxiety, even fear, when faced with the need to change Yet the contemporary world of work is characterized by constant change It is therefore the aim of the career education curriculum to encourage students to overcome their natural anxieties and to "make the growth choice rather than the fear choice" when confronted with a novel situation (Maslow, 1967)

Jerome Bruner says, "To the degree that one is able to approach learning as the task of discovering something rather than 'learning about' it, to that degree there will be a tendency for the child to work with the autonomy of self-reward or, more properly, be rewarded by discovery itself" Students who experience this joy of discovery become workers who can deal with whatever the knowledge explosion brings—workers who can create the future rather than grapple for a place in it

The fact that students are committed to the tasks they are doing is

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both the good news and the bad news While success provides powerful motivation, failure can be crushing Two things are certain: Task-oriented students are not passive Their feelings must be dealt with While a career education teacher often cannot, and generally should not, prevent students from experiencing failure, it is the teacher's role to help students handle it First and foremost, the teacher must communicate in words and actions that the career education classroom is a place where it is all right to try and fail In fact, the greatest learning often occurs when mistakes are made or when conflicts arise, new ways are learned when old ways are found to be inadequate The important factor is that we learn from our mistakes and try again Very possibly, the strongest way for a teacher to convey this message is occasionally to allow students to see the teacher make a mistake and "pick up the pieces"

Another way to build students' ego strength and thereby enable them to become reasonable risk takers is to initiate on-the-spot discussions of feelings These discussions encourage students first to release and then to accept the normal amount of anxiety and doubt that always accompanies encounters with change. Again, the teacher can serve as a model by being the first in the class to share personal feelings of fear as well as fascination over new experiences

Finally, since mustering the courage to decide and act is an age-old topic of universal interest, stories told through literature, history, science, films, television, and the arts provide students with a wealth of behavioral models to examine In particular, science fiction is a major source of models for hypothesis making in novel situations

The Team Player While reflection on the lives of the great heroes of history and fiction encourages students to be equal to the demands of their chosen tasks, the career education curriculum intentionally steers students away from the temptation to adopt any one style as their own In today's complex, fast-moving, and interdependent world economy, the employable graduate is the one who is flexible enough to select and adopt the personal style that enables him to accomplish the task at hand

Unfortunately, the attitudes that enable students to work together as team players do not develop spontaneously Just assigning a given number of individuals to a common task does not make them a group in the functional sense of the word. On the contrary, a collection of individuals becomes a group as a result of a predictable

chain of events leading to the formation of a collective identity and a sense of interdependence and mutual trust For instructional purposes, it is helpful to divide the group development process into three stages the aggregate stage, the team stage, and the group stage. Each of these stages can be identified with observably distinct participant attitudes

A collection of students at the aggregate stage tends to depend on the teacher for information, directions, and approval When specific directions are not given, each student is likely to act independently to meet his own needs or to accomplish an individual task. Without support from the teacher, students typically argue, play around, and drift away from the task. Until students develop the ability to conceptualize a project from beginning to end, a career education teacher's role is to provide structure for all group tasks The teacher might lead the group or appoint a leader and assign other well-described roles Whenever possible, the career education teacher mixes the group membership by sex, race, age, personality characteristics, and ability levels in order to prepare students for equal opportunity employment

An aggregate has become a team when all the members focus on the common task and *not* on a leader or themselves Some students at this stage commit themselves so thoroughly to the task that they design overburdening models that cause their teammates to collapse before they finish Although a team expresses a desire to cooperate, the lack of true interdependence often leads to conflict over methods and role assignments The teacher must mediate disputes, approve plans of action, and support weak team members.

At the group stage individuals realize that, in order to accomplish their task, they must emotionally support other members and enable them to do their part. Members demonstrate care for one another by sharing the responsibility for leadership and by working to reach a consensus before initiating a plan of action A true group at this stage is able to decide and act independently of the teacher or an assigned leader The role of the teacher is to act as adviser and evaluator

In every group situation there are times when a teacher or a student notices that a failure to communicate is blocking the effective completion of tasks These are occasions for the group to pause and study itself, its members, and their methods of relating as they go about the process of accomplishing their task As students

gain more experience and maturity, they are increasingly able to accept feedback from colleagues and to assess their own ideas, feelings, and behaviors in relation to the group

While the career education curriculum is primarily task-oriented, it is also people-oriented. It is a curriculum composed of a series of tasks that facilitate the acquisition of knowledge, the development of skills, and the growth of a positive attitude in dealing with the future and with people. The skills and knowledge to be learned are determined both by the projections of the future job market and by what is relevant to the student. The subjects, materials, and methods are used as tools rather than as ends in themselves. Because it is people-oriented, it does not prepare students for a predetermined place in the future. It prepares them to direct the process of constant change which is the future.

The Call to Action

Career education's open-door policy, task-orientation, and unique approach to knowledge, skills, and attitudes will necessitate teaching and management methods that were neither covered nor demonstrated in most teacher preparation courses. Employers and employees in a community, who are generally isolated from school children during the daytime, will need to learn to welcome, even to make preparations for, regular student visitations. The students and their parents will have to learn that leaving the building during class time no longer means touring a local bakery or cutting out to McDonald's for lunch. If career education is to succeed, the entire community—educators, workers, parents, and students alike—must become accustomed to sharing the responsibility for teaching and learning. As seen in Figure 5, there is a role for everyone.

Prior to implementing the proposed curriculum, a team of educators and laypeople should take an imaginative yet practical inventory of the community to identify sources for learning materials. Curriculum coordinators and consultants, guidance counselors, and teachers can scour the school system for existing texts, references, workbooks, kits, equipment, films, and supplies.

Representatives from the larger community can be tremendously helpful in locating and gaining permission to borrow tools, equipment, supplies, literature, and even speakers and performers from business and the arts to supplement in-class materials. As arrangements are made for off-campus projects, these representatives can also suggest other community facilities that can be "borrowed" while students are outside the building. As this open-

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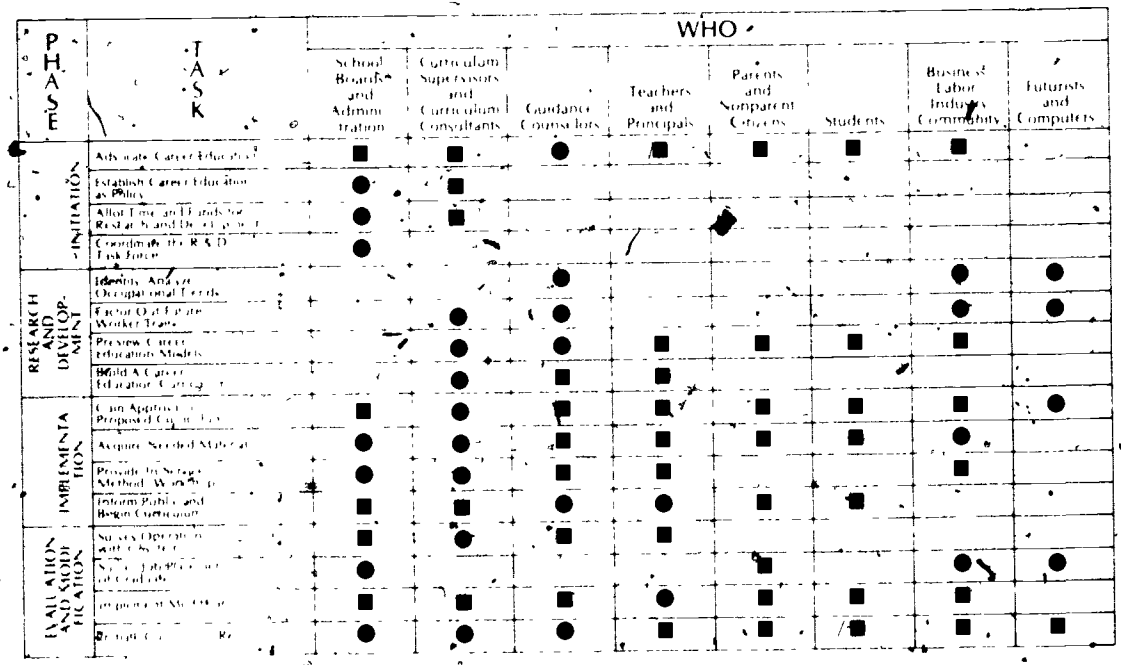

FIGURE 5

Activating Career Education—An Assignment Sheet

door concept is more fully explored, both educators and laypeople can contribute other necessary implementation tools

Yet educators who accept the idea that the whole universe is a media center realize that finding student materials is not the real block to the implementation of career education. *The block is method rather than media.* A visit to classrooms in almost any major school system will show that it is not uncommon to find the latest materials closeted while older texts are used, or to find students outlining or memorizing new materials as content in preparation for yet another objective test. The reason is clear. The teachers have not been trained in anything other than the expository method of teaching.

While the concept of "teacher" in the career education curriculum may expand to include various other members of the community and even the students themselves at times, the final burden of implementing any curriculum falls squarely on the hired school personnel. If this job is to include coordinating and facilitating the completion of career education tasks, then teachers will have to learn how to do so. Although better materials may be published, and although curriculum consultants can revise old teacher guides to redirect the use of existing texts, methods manuals, are not enough. Teacher training, or retraining, is the key to the success or failure of career education.

A series of teacher workshops should be completed well in advance of the day that career education begins in the classroom. These workshops should be arranged to move from the exploration of the career education concept to the demonstration of task-oriented materials and methods.

The end of the training should directly precede the date of implementation so that newly learned skills will be reinforced. In the past, despite methodical preparations, many attempts to change curricula by changing teacher behavior have failed miserably. And attempts to retrain teachers are likely to fail again if change is viewed as an exclusively intellectual activity. It is only natural for teachers to fear the change that is about to take place in their professional lives. Stripped of their familiar routines and methods, their greatest fear may be that they will prove inadequate to the challenge. Repeated opportunities to watch, hear about, and practice the new techniques can reduce this fear greatly, but fear, in whatever form it manifests

itself, must be anticipated, brought into the open, and dealt with frankly and thoroughly. In short, *effective* teacher training must include *affective* teacher training.

Teacher training may be the area in which the universities can be of greatest assistance to the public schools. Where extensive methods training is required, teachers and administrators might be offered graduate credit to participate in summer or evening programs. On-campus career education methods courses would facilitate the adjustment of future career education teachers. Finally, a pilot program in which undergraduate education courses were themselves conducted according to the career education formats would serve both to familiarize future teachers with the model and to demonstrate to the rest of the university a way of adapting to our changing world.

Teachers are not the only ones who need special help to overcome the fear of change. Even those students who are not doing well with the old curriculum will be alarmed by a change in routine. And those who are doing well may, like their teachers, fear failure under the new system. Change can be made easier for these students and their teachers if parents are well informed ahead of time and asked to be supportive.

Once all who will be directly involved in career education have been prepared for their roles, it is time to plan methods for preparing the rest of the community. Since career education is a community project, community resources can be used to spread the word. Before holding a citywide school open house to explain and demonstrate career education techniques, community supporters of career education might appear on local talk shows. Career education information might appear in the newspaper or be distributed from booths in shopping malls. Such preparations can inspire enthusiasm, overcome apprehension, and give the community cause to celebrate the beginning of something new. Finally, when all is said and done, the only way to begin is just to begin.

Sample Career Education Units

The following units provide examples of career education curriculum for various age levels They attempt to exemplify many of the principles discussed in this fastback

Unit I Getting Acquainted

Overview

Grade level K-4

Intellectual stage Preoperative to early operative

Students' task To get to know and trust the members of their groups.

Career education rationale When children arrive at school in September, they are 30 separate people, mostly strangers, who are expected to share a room and countless hours of their lives Some children are not used to strangers or to working in such large groups This unit helps them to make the transition from family to classroom and prepares them to work with others

Facts and concepts Letters, colors, animals, concept of family, names of classmates, facts about classmates, concept of same and different

Skills Reading, writing, spelling, listening, speaking, compiling, computing, copying, comparing, drawing

Attitudes Cooperation with group, confidence in problem solving, responsibility to group, positive self-image, sense of belonging

Task #1—NAME GAMES

Using a variety of games like hidden word puzzles, Scrabble, Perquacky, and an art project like name designs, each student will learn to say and spell every other student's name The name designs can be placed on the walls around the room as decor and as reminders of everybody's name The ethnic history of each name might also be found, using a popular names book

Task #2—FEELING LIKE A SALLY, LOOKING LIKE A SUE

In small groups of five or six, students will share their feelings about their names. The teacher asks the questions and then students respond one at a time in clockwise order.

1. Who likes his name? Why?
2. Who doesn't like his name? Why? What name would you want to have?
3. If you were of the opposite sex, what name would you want to have?
4. Who here is named after his father? Mother? Grandparent? Famous person?
5. Why do you have the name you do? Close by suggesting that students ask about names at home.

Task #3—"GETTING TO KNOW ALL ABOUT YOU"

After watching the teacher draw a picture of his family on the board, students will sit in groups and draw their families, labeling each member if they can write. They can share stories about their families while they work or when they finish. The whole class will want to know the answer to questions like these.

1. Are all the families the same?
2. Whose is the biggest? Smallest?
3. Who has brothers? Sisters? Grandparents at the house?
4. Who is the oldest? Youngest? Only child?
5. What makes a family a family?

No matter how many there are in a family, every single one is important, and it is just the same in a class or group in a class. Students will want to hang their pictures in the room.

Task #4—SOME SORT OF A FAMILY

During free play, students may help themselves to shoeboxes filled with objects to sort into families: skeins of thread to sort by color, toy animals, picture cards, letters to divide into capital and small, blocks of different shapes and sizes. Objects should vary with the age of the students. This exercise can be as sophisticated as sorting types of rocks, leaves, powders vs. crystals, etc.

Unit II Making a Museum

Overview

Grade level 4-7

Intellectual stage Concrete operative

Student task To create a museum about man's use of the sea to be shared with other classes and parents

Career education rationale In the concrete operative stage, children are ready to broaden their collection of data about the world Learning is most permanent when they are engaged in a project that allows them to reorder the data themselves to fit into context Because water is a basic human need, with which man continually must deal, it can be used as a topic to introduce students to many types of worldly endeavors The task of museum making is career-oriented because it requires a combination of skills from many workers and is an experience in providing services for others outside the family and classroom

Facts and concepts Basic scientific principles (i e , buoyancy, displacement), the life cycle, the rain cycle, history of the age of exploration, map skills, geography, art history, ordering of events, applied mathematics, sailing terminology and mythology, oceanography

Skills Reading, writing speaking, listening, use of card catalogue, formal letter writing, spelling, and vocabulary, collecting, compiling, and coordinating data, negotiating, instructing, persuading, and serving, building, drawing, and designing

Attitudes Cooperation with a group, sense of having a way to serve people outside the immediate group, confidence in problem solving, global awareness, sense of adventure, awareness of the value of natural resources

Task #1—"LOCO" MOTIVATORS

To get interested in the topic, the class will play a game like 20 questions, and winners will pick prizes from a tray One of the prizes will be a glass of water The glass of water will probably be the last prize chosen After the game, discuss questions like these

1 Why didn't anybody pick the water?

2 What makes the other items more desirable? Ask those who won prizes to give reasons for their choice.

Look at a picture of the desert that is held up for display or shown under an opaque projector.

3 If you lived here would your choice be different? What if you ran out of gas here?

4 Are there places near where we are that look like the picture? Where? In the U.S.? In the world?

5. Do many people want to live in those places? Why not?

Look at a picture of a body of polluted water.

6 If you lived near where we are and got your water from this source, would your choice of a prize be different?

7 How important is water, clean water, to life?

8. When you get right down to basics, what was the most valuable item on the tray of prizes?

Task #2—BRAINSTORM AND GESTALT

Students will do some wild, imaginative thinking about all the topics that relate to water, the oceans, seas, rivers, lakes, or water in a glass. In brainstorming everyone says what comes to mind, waiting long enough before calling out an idea so the recorders can finish writing the previous idea. One recorder writes on the board and several others write on paper. To inspire the brainstorm, the teacher asks questions like these.

1 When you think of the ocean, what comes to mind?

2 What lives in the water? Around the water?

3 Who are some famous sailors? Famous ships?

4 What does man do to water? Good things? Bad things? Move it? Change it?

5 What is dangerous about water? Fun about water?

6 What kinds of boats are there?

7 What stories have you read about the sea or water? Movies? TV shows?

The students literally go fishing for ideas that relate to water, and then look at the list to find things that go together or are related They make as many categories as there are groups in the class Categories might be creatures in the sea, famous seamen, stories about the sea, the science of water and the sea Later on, different groups of students will study different topics, make displays, and share their museum with others. The class may also brainstorm a list of places to get information about their topics and materials for the museum This list might include textbooks, library books (reference and fiction), travel agencies, the local water company, local museums of art or history, restoration sites of old ships, local sailors or skin divers, zoos, the Coast Guard, etc

Task #3—SPIN-OFFS

While the students work on their museum displays, they can fill in the rest of the day with related activities They may:

1 Listen to one chapter a day from a sea story like *Captains Courageous The Slave Dancer*, or *Treasure Island*

2 Make a set of word problems for math using units of water measurement like liters, leagues, fathoms, nautical miles, etc

3 Have small group discussions about the best sea movies or TV shows the group has ever seen They may also watch any sea programs or movies that are currently showing, such as Jules Verne stories, *Robinson Crusoe*, and Jacques Cousteau specials

4 View a film that focuses on water as an artistic or poetic experience, such as *Study in Wet*, *A Drop of Water*, or *Hang Ten*

5 Do finger paintings or water colors of the sea Visit a local art museum to view paintings of the sea, or have an artist come to demonstrate, or send to a museum for slides of famous seascapes Hang art work around the room.

6 Give a basic science demonstration to show why things float, how sea water is different from stream water, or how to tell water from other clear liquids, etc (Get ideas

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from books like *What Makes a Boat Float?, Waves,* or *Science Projects in Pollution.*)

7. In small groups, make a game of guessing other people's feelings as described by kinds of water. Say something like, "If George were water, would he be a river, an ocean, a creek, or a waterfall?" See if the person feels what the group thinks he feels.
8. Sing some songs of seamen from song books like *Around the World in Songs, The Sea,* and *Ships and Sailors.*
9. Read a selection about dolphins and discuss the possibility of dolphins learning a language or having one. Read and discuss the book and movie *Day of the Dolphin,* listen to the album *Songs of the Humpback Whale* (John Paine), or the song "Farewell to Tarwathie," or the album *Colors of the Day* (Judy Collins).
10. Have a speaker from the local water company come to class or have the class visit a sewage plant.

Unit III. Working with Elders

Overview

Grade level: 8 to adult

Intellectual stage: Formal operative

Student task: To communicate effectively with elders

Career education rationale: Because the number of elders is continually increasing and because the number of service occupations is also increasing, it is clear that many young people will be dealing with older people through their work as well as in their personal lives. Since most young people will someday become elders and face retirement, this is a part of life that students should consider while planning a career. Because the problems of the elderly are problems that society has not solved, this topic gives students an opportunity to deal with the future and to make a contribution to society.

Facts and concepts: Social history, sociology, statistics, symbols in art, medical facts

Skills: Reading, literary analysis, research and writing, listening,

speaking, reporting, serving, diverting, supervising, instructing, negotiating, teaching, computing, compiling, analyzing, coordinating, synthesizing

Attitudes: Cooperation with and integration into the group and society, commitment to a task, confidence in problem solving, sense of social responsibility, confidence in the ability to serve others, acceptance of aging and the aged

Task #1—ACTION LEARNING

Paralleling the units of classroom learning related to elders and the process of aging, students will work as aides, receptionists, janitors, etc., in local homes for the elderly. Students should arrange their working hours and transportation through a work-study placement service.

Task #2—SELF-AWARENESS—AUNT ROSE AND I

To explore their instinctive feelings about the elderly, students will role play, five of them volunteering to play the parts of a family having dinner. Once they have gotten into character, the phone rings. It's Aunt Rose, who is 85 and hard of hearing. She is at the bus station and would like to stay for a week or so if it's all right. How does the family react? After the play, the class discusses these questions:

1. What was the look on Lucy's face when Aunt Rose said hello? Others in the family?
2. How did you feel when Aunt Rose called? How would members of your real family react?
3. Make a sound—not a word, but a sound—that expresses your feelings.
4. If we were to continue the role-play, what would happen when Aunt Rose arrived at the house? A week later? After she left?
5. Why is it that we react to elders in that way?

In small groups, students will share experiences they have had with older people.

Task #3—FACING THE FACTS

The class as a whole will cooperatively write a book about the el-

derly, assigning each small group to write a chapter. The class might follow these steps

1. Brainstorm a list of all the words and phrases associated with elders, their problems, famous elders, historical treatment, etc
2. Categorize the list and assign a group to each category
3. Have each group complete its research and compile the information into a chapter
4. Have each group make a copy of its chapter for every class member. Later, all the chapters can be collected to form books
5. Each group presents its research to the class in the form of a panel discussion.

Task #4—EMPATHY IF I WERE YOU

Having established facts about the elders of society, students will acquire a sense of empathy with elders through the creative use of many media The following are suggestions

1 See a movie about aging or the aged, or see a fictional film with elder characters In the follow-up discussion, draw out the feelings of and for these people. Suggestions *Geronimo Jones, The Old Man and the Sea, The Mad Woman of Chaillot.*

2 Divided into pairs, the class will role play a local historian interviewing an elder about days gone by The students then tape record the result to evaluate their communication skills. They then take the recorder with them on a personal visit to an elder and do a real interview to play for the class

3. Look through the available sets of anthologies for poems about aging—especially ones with fall symbolism Suggestions "That Time of Year," William Shakespeare, "On His Seventy-fifth Birthday," Walter Landor, "The Span of Life," Robert Frost, "The Wise Old Apple Tree in Spring," Robert Hillyer, "Two Jazz Poems," Carl Wendell Hines, "Mother to Son," Langston Hughes.

4. Visit an art museum to view portraits of old people or send for a slide collection from a museum. Have a visiting artist sketch students as they might look in old age.

5. Invite a local make-up artist, perhaps someone from the high school drama club, to come to class and "transform" someone into an elder.

6. Bring records or lyrics to songs about age and discuss them. Suggestions: "Will You Still Love Me? (When I'm Sixty-Four)," The Beatles, "Window Raisin' Granny," Gladys Knight and the Pips, "The Women," Glenn Yarbrough; "Voices of Old People" and "Old Friends," Simon and Garfunkel.

Unit IV: Serving the Community

Overview

Grade level: Postsecondary

Student task: To write and submit a proposal for a major off-campus project and to complete that project while taking relevant theoretical coursework.

Career education rationale: Post-high school students take on the responsibility for designing, in detail, their own real-life community projects and may bargain with academic advisers to determine the number of credits a given project is worth. When funding is needed to implement their projects, advisers might help them to seek grants from the government, private foundations, or industry. Because students are free to propose their own projects, the following are samples of student proposals and *not* assigned tasks.

Proposal #1—Preserving a Local Reservoir as a Source of Public Water

A task force of four university students interested in ecology propose to do a field study to isolate those changes in water quality and marine life that correlate with the increasing development of waterfront property. During the nine-month study, they propose to take standard courses in research in biological chemistry, environmental biology, and readings in public affairs. With university

approval they are eligible for funding from their state Environmental Protection Agency

Proposal #2—Repairing Discarded Power Tools for Use in the Public Schools

Twelve students from a two-year vocational technical school propose to set up bins in local hardware stores to collect broken power tools. To encourage donations, the merchants have agreed to discount the price of a replacement tool by [illegible]. Using the school's library of repair manuals, the students propose to repair the tools and donate them to the local high school's vocational program. During the nine-week project, students propose to take courses in small-motor repair and principles of electricity.

Proposal #3—Setting up a Neighborhood Credit Union

As her practicum experience, one student from a school of social work moved into an inner-city community to study the overarching problems that affected the majority of citizens. One identifiable problem was the inability of individuals to get home improvement loans from local banks. Returning to the university, she now proposes to recruit an all-student task force to design and initiate a neighborhood credit union. Members of that task force would include one future accountant, one law student, one economics major, and one practicum student in family counseling. Both the counselor and social worker would reside in the community for six months while the other task force members would be nonresident consultants. Because they are from different academic schools, each task force recruit submits his own proposal for credits to the appropriate faculty adviser.

Because it is future-oriented, the effectiveness of a career education curriculum is dependent upon the accuracy and timeliness of its basic assumptions and the appropriateness of the subjects, materials, and methods that give it form. It is by definition a curriculum designed for use in a specific time and not a curriculum for all times. As the future becomes the present, trends will bend, the job market will change, and the career education curriculum will need to be changed accordingly.

What lies on the other side of the career education experience? Life—more tasks, more proposals, and it is to be hoped, more

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successes than failures in dealing with the future as it comes. Will the young graduates be ready? The feeling of competence that only comes with experience can be theirs at a very early age. And they may be more ready than we know.

Annotated Bibliography

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Editor Alvin Toffler and eighteen leading psychologists, educators, futurists social scientists and humanists have contributed to this manifesto on "education in the future tense " Its central theme is clear all education whether so intended or not is preparation for the future Successful education realistically addresses the key issues of an accurately assessed future These authors offer concrete suggestions

U S Office of Education *An Introduction to Career Education A Policy Paper* March 1975
This booklet represents the U S O E s first comprehensive conceptual statement on career education It offers a definition of career education and an outline of the kinds of changes championed by career education

U S Department of Labor *Occupational Outlook Handbook*, 1975
This collection of employment projects which is updated annually, is a time-saving source of information for anyone who is planning for the occupational future of today's youth It describes today's employment picture and projects trends over a ten-year period

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