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ABSTRACT

Four representative issues affecting the fields of adult, career, and vocational education are examined. These issues revolve around the following questions: (1) What career-related curriculum should be incorporated into the new basics? (2) What contributions can vocational and career education make to reducing the dropout rate? (3) How can articulated secondary-postsecondary programs support high-quality occupational training? and (4) How can literacy programs increase the literacy rate among adult Americans? Effective and innovative programs that are currently addressing those questions are discussed. These issues are representative of various educational levels and grow out of the following three major trends: (1) a changing workplace and its effects on occupational and educational requirement; (2) the growing concern for reaching disconnected youth and adults; and (3) the current emphasis on educational excellence. This report attempts to clarify the context surrounding each of the four issues, to describe emerging and promising educational approaches, and to suggest future directions needed to strengthen research, development, dissemination, and implementation. References are included. (PS)

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SOME CURRENT ISSUES IN ADULT, CAREER, AND VOCATIONAL EDUCATION

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The fields of adult, career, and vocational education are broad and are currently facing a variety of issues. Four issues have been selected for review in this chapter. These issues revolve around these questions:

- What career-related curriculum should be incorporated into the new basics?
- What contributions can vocational and career education make to reducing the dropout rate?
- How can articulated secondary-postsecondary programs support quality occupational training?
- How can literacy programs increase the literacy rate among adult Americans?

Selection of these issues was difficult because of the diversity and breadth of the three scope areas covered by the ERIC Clearinghouse on Adult, Career, and Vocational Education. The final selection of issues was based on two criteria: representativeness and importance.

These questions reflect important issues at various educational levels ranging from kindergarten through adult education. The career-related curriculum focuses on elementary, middle school, and early high school curriculum that prepares students for the career and technological changes that they will confront throughout their lives. The issue of dropout reduction addresses a growing national concern for the need to support student retention by initiating early identification and prevention programs. The articulated secondary-postsecondary occupational training issue responds to the need to develop coordinated occupational training curricula that are efficient and nonduplicative and result in the achievement of higher-level technical skills. This area focuses on later secondary and postsecondary education. Finally, the educational needs of adults are a recognized national concern. Although adult learners vary in their educational goals, how to increase adult literacy levels stands out as a major concern. For this reason, adult literacy was selected as the fourth issue to be representative of a major adult education theme.

These issues also address important trends affecting education today, including the effects of a changing workplace on occupational and educational requirements, the growing concern for reaching disconnected youth and adults, and the current emphasis on educational excellence. Technology is being adopted widely and is making frequent career change a way of life.

An understanding of the principles of technology and of personal career planning concepts is becoming increasingly important for all students. The changing workplace is creating a demand for a higher number of technicians. For success it requires generalizable, nonspecific work skills. There is also a trend toward a higher number of less-than-baccalaureate-level jobs. This is creating an increased need for high-quality, efficient occupational training at the secondary and postsecondary levels.

The problem of disconnected youth and adults is becoming acute. These are youth and adults who have dropped out of high school, lack literacy skills, and consistently are either unemployed or employed in low-level, unstable, and low-paying jobs. A dual attack is needed to stabilize and reduce the number of disconnected youth and adults. At the public school level, dropout prevention programs are needed, while at the adult level literacy programs are needed.

Finally, the recent emphasis on excellence in education is resulting in major curriculum reform. Most states are adopting stricter graduation requirements and the curriculum is becoming more uniform for all students. This trend raises the issue of the role of career and vocational education in the new basics. Among the suggestions emerging are the adoption of a career/technology core as a basic curriculum area for all students and the granting of joint academic and vocational credit for carefully designed vocational education programs.

What Career-Related Curriculum Should Be Incorporated into the New Basics?

Should principles of technology and career be incorporated with the basic curriculum? Several writers suggest that they should. Boyer (1983), in the Carnegie report entitled High School: A Report on Secondary Education in America, suggests that a course on work and career should be one of the basics. The National Commission on Secondary Vocational Education (1984) states that vocational education in the secondary curriculum should include career guidance and exploration, general employability skills, broad concepts of work and family, and general and specific occupational skill training. The increasing influence of technology has prompted several writers (Daniels, Karmos, & Presley, 1985) to focus on the importance of pretechnical knowledge and skills that are of increased importance in the workplace and to individuals as they make a number of career changes over the life span.

Many of the recent commission reports on education emphasize the need for a solid educational foundation that will enable today's youth to adapt to an uncertain employment future. The rapid rates of technological change mean that much of the current work force will have to acquire new skills. In such a period of transition, it is difficult to know how to prepare young people and retrain adults for rewarding future employment (Lewis, Fraser, & Unger, 1984).

Although authorities agree that the economic shift will affect the types of available jobs, it is difficult to predict the exact nature of that change as well as how rapidly it will occur. Recent figures from the U.S. Department of Labor's Bureau of Statistics project rapid growth rates for the high-tech occupations, such as computer service technicians. However, the actual number of these high-tech occupations, compared to other occupations, will remain small. The largest number of new job openings will be created in low-skilled or service job categories such as building custodian, cashier, secretary, general office clerk, and sales clerk. When reviewing projections of future labor force requirements, a distinction should be made between the percentage of growth for an occupation and the numbers of new jobs created. During the remainder of the 1980s, most new jobs will not involve high levels of scientific or mathematical skills as high-tech industries are expected to account for only 17% of the new jobs created between 1982 and 1995 (Lewis et al., 1984).

Technology is having a profound impact on existing jobs. Microprocessors, laser use, and biotechnologies are influencing the workplace. How will their applications affect the skill levels required for various jobs? Two opposing views exist. The first is that the increased application of technology will increase job skill requirements. The second view is that the increased use of technology will de-skill or lower the job skill requirements, and there will be less need for a highly educated work force. There is evidence that both points of view are true. Technology will probably first raise but later lower the skills required of workers. Current evidence suggests that emerging technology is resulting in less emphasis on manipulative skills and greater emphasis on cognitive and analytical skills. For example, robots are replacing assemblers and operatives but are increasing the demand for technicians. However, as technology matures and becomes more user friendly, worker skill requirements are likely to decrease (Lewis et al., 1984; D. P. Meyer, 1985).

It is impossible to predict accurately which jobs will be available to an individual throughout a lifetime. How can education prepare individuals to meet such uncertain future labor market conditions? What are the implications of the changing workplace for the core curriculum? The predominant view regarding curriculum is that it should provide a strong general educational foundation that will prepare individuals to adapt to the many occupational and technical changes that they will encounter in the future. Several models of K-12 career-related curriculum are emerging. These models focus on two approaches. The first is to provide joint vocational and basic skills courses to support the application of concepts and to increase student motivation. The second focuses on the career/technology area as one of the basics important to all students.

The combined vocational/basic skills approach includes granting credit jointly to vocational and basic skills for vocational education courses and reinforcing basic skills through vocational education instruction. Cincinnati's Great Oaks Joint Vocational School District has a program that coordinates math and science instruction with vocational offerings in the areas of dental assistant training, chef's training, electronics, welding,

and industrial maintenance. Working jointly, academic and vocational instructors have developed curriculum that delivers both occupational skills and basic skills in such areas as math, science, and communication (Migal, 1984).

In Virginia, students are allowed to take a sequence of vocational courses to fulfill the requirement for either a math or a science course. Students who complete a minimum of 300 hours of vocational instruction in the areas of agriculture, business, distribution, health occupations, occupational home economics, or trade and industrial education also receive a math or science credit toward graduation requirements (Brown, 1984).

The approach combining vocational and basic skills instruction that was developed by the Center for Occupational Research and Development recognizes the interrelationship between basic science and technology. The "Principles of Technology" program includes joint instruction in technical principles and concepts of science and mathematics. It also provides hands-on laboratory experiences to support the application of concepts and skills. The course includes 14 units focusing on the scientific principles that are the basis of current technological developments (Parnell, 1985).

Another cluster of programs addresses the importance of career and technology concepts as one of the basics needed by all students. These approaches focus on technological literacy, career planning skills, and nonspecific, generalizable work skills. Dyrenfurth (1984) has developed a technological literacy model consisting of three stages. First-order technological literacy helps individuals be aware of all technology. This level should be incorporated into existing elementary, junior high, and middle school curricula. Second-order technological literacy helps individuals be aware of and explore a subset of technologies of interest to them. This level can be supported by appropriate materials in middle and secondary school social studies, industrial arts, home economics, and practical arts curricula. Third-order technological literacy includes exploration, prespecialization, and preparation in a subset of technology. This would occur in both the secondary and postsecondary setting.

The state of New York has recently adopted a three-stage curriculum that combines career and technology competencies for all students. During the foundation stage, grades K through 8, all students obtain a common core of conceptual skills and knowledge related to personal, family, home, community, and work responsibilities. During this phase, seventh- and eighth-grade students are required to take one-unit courses in technology and in introduction to careers. During the 9th and 10th grades, the development phase, students are provided a broad spectrum of knowledge and skills generic to all areas of home/family and employment. Specialized occupational education, the concentration phase that prepares students for either employment or for postsecondary education, is delayed until the 11th and 12th grades. Thus, career options are kept open until students have thoroughly explored the full implications (Daggett, 1984).

Daniels et al. (1985) have proposed a pretechnical curriculum that includes three sets of skills. Generalizable skills and knowledge are those directly used in work performance. They are transferable across jobs and occupations, and are keys to success on the job and in the classroom. Examples include reasoning, communication, math, and technological and attitudinal skills. Transition skills and knowledge are needed to manage career and other life transitions. Examples include change management and decision-making skills. Problem-solving skills and knowledge are needed to be effective in interpersonal and group situations encountered in most work settings. These include interpersonal skills and the ability to understand human behavior. The importance of these skills in the changing workplace was verified by Pratzner and Russell (1984), who identified such transferable skills as problem-solving, interpersonal relations, group process, decision-making, planning, communication, and thinking/reasoning skills.

Future Directions

New demands in the workplace resulting from the increased application of technology have implications for the K-12 curriculum. Recent educational reforms have emphasized increased achievement in the basics. Current programs are supporting the effectiveness of combining vocational and basic skills instruction and incorporating career and technology concepts into the basic curriculum for all students.

There are several advantages to developing courses that carry joint credit for vocational and basic skills. Such courses provide an increased opportunity for the application of basic skills and concepts. Transfer of training can be increased as students use basic skills to solve vocationally oriented problems. Also, for unmotivated students, the active, hands-on instruction used in vocational education increases interest and motivation, thus supporting higher levels of achievement and retention. Successful programs that include vocational and basic skills instruction and credit require cooperative planning. Existing programs have been planned jointly by the academic and vocational staff, and often include team teaching. In the cases of New York and Virginia, the impetus for the establishment of joint curricula has come from the state level. The development of joint vocational and basic skills courses is not widespread at the present time. To support the increased development of quality programs, it is important to study more closely the planning processes used to develop successful arrangements and to disseminate information about successful models.

Technology is vital to our economic development. Although technology is closely related to and applies concepts from basic areas such as math and science, it constitutes a separate domain. Recent efforts to develop models of pretechnology and technology education suggest that technology is an important basic. More developmental work is needed in this area. First, existing pretechnology and technology curriculum models need to be tested to determine their quality and to identify the most effective ways of incorporating these areas into the existing curriculum. Current approaches include offering separate courses and combining with existing courses. Second, curriculum developers need to find effective ways to monitor

technological developments and revise curriculum to include emerging concepts. This will require stronger linkages to business, research, and industrial settings in which technological development is occurring.

A final area includes the development of curriculum to teach generalizable career skills. Trends indicate that change is becoming a way of life. Today's youth will change occupations over seven times during their adult lives. What knowledge and skills best prepare youth to deal effectively with change? A set of general, nonoccupationally specific skills are being suggested. These include problem-solving, decision-making, interpersonal, and career-planning skills. Although some of these skills are taught in the existing curricula, it cannot be assumed that transfer of these skills to life decisions and occupational situations will occur automatically. Specific instructional activities are needed to support this transfer. The major need is to develop learning experiences that support transfer of skills and to determine effective models for providing this instruction. Existing models such as general career-related courses, infusion into existing curriculum, and career guidance programs need to be evaluated. Dissemination of effective approaches and coordination at the state level are also needed.

What Contributions Can Vocational and Career Education Make to Reducing the Dropout Rate?

A large number of youth are at risk (Education Commission of the States, 1985). They are more apt to drop out of school before high school graduation. Also, they are more likely than other adults to be unemployed and receive lower wages after they have left the secondary schools. About 700,000 students dropped out during 1984 and another 300,000 were chronically truant. In large cities the dropout rate runs over 40 percent. The dropout rates for the lower socioeconomic, black and Hispanic youth are much higher than dropout rates for high socioeconomic and white youth. Among dropouts, most female students drop out to have babies. Of the unwed teens who gave birth to 650,000 babies in 1984, many did not return to school.

Once they have left school, many young adults fail to find consistent employment. The unemployment rate of teenagers is three times higher than that of adults. More than 3 million young adults (ages 16 to 24) are looking for work and almost 400,000 are discouraged, thus no longer seeking employment. Current unemployment rates for black teens (40 percent) and Hispanic teens (24 percent) are higher than the 15 percent unemployment rate for white teens. Not all dropouts are at risk in later career and educational achievements. About 14 percent of males and 9 percent of females later enter General Educational Development (GED) programs.

The recent excellence reforms enacted in many states are a first step toward ensuring the quality of education and preparing youth for changing social and labor market conditions. For at-risk youth, however, reforms such as a uniform core curriculum, longer school day, more homework, and competency testing may result in increased dropping out rather than increased

competence. Several groups are suggesting that preventive programs for at-risk youth are an important next step in the educational excellence reform process (Education Commission of the States, 1985). Programming to support quality education to retain at-risk youth can draw from existing dropout research and current exemplary programs that suggest program standards.

Research has focused on describing the characteristics of dropouts, understanding why youth decide to drop out, and describing the features of programs that reduce dropout rates (Batsche, McCarty, & Klitzke, 1984; Weber & Silvani-Lacey, 1983). Research on characteristics of dropouts has identified personal, family, social, and economic factors that characterize dropouts. There are two problems with the usefulness of this information for program development. First, few of the identified characteristics are factors over which the school has control. While a characteristic such as low self-esteem may be modified by the school, other characteristics such as socioeconomic status may not. Another problem with this research is that too often it focuses on the students at or near the school-leaving age. Descriptions of students at this point have little power to suggest early intervention strategies. Research will be most helpful when it studies the characteristics of later elementary or middle school students who subsequently drop out.

Other research has examined the decision process: why a student chooses to drop out (Batsche et al., 1984). One problem with this research is that students will often give socially acceptable reasons (e.g., need to work), rather than real causes (e.g., isolation or boredom). Decisions during the transition from middle school to high school are crucial, since they define motivation for the high school years. Fewer dropouts than school completers report having discussed their high school plans with a parent, "significant other," teacher, or counselor (Weber, 1986). They are more apt to report being "assigned to" rather than choosing their high school program, and are more likely to be in the general curriculum. When they are in vocational curriculum, they are more often enrolled in exploratory courses rather than a sequence of courses that provide job-specific training. Dropouts are more apt to be in work-study programs than is the general student population, but these experiences too often are not programmatic or linked to ongoing school efforts.

What role do career and vocational education play in retaining students in high school and motivating disconnected young adults to return to school? Career education, including career guidance and counseling, experience-based career education, and career-related classroom activities, has been shown to support several goals related to retention (Bonnet, 1979). Career education increases basic skills achievement, particularly in the application and long-term retention of skills. Students with low motivation to attend school have shown improvement in school attendance and retention after participating in career education experiences. Vocational students who have participated in career education are more likely to complete the vocational program they have selected. Finally, career education has consistently demonstrated effectiveness in increasing students' career planning skills.

Thus, students are better able to set personal, educational, and occupational goals that lend meaning and motivation to the high school experience.

Results of several studies support the importance of vocational education in dropout prevention (Mertens, Seitz, & Cox, 1982; Weber, 1986). These studies showed that vocational education enrollment was associated with school retention. In North Carolina, one-fourth of the students in a survey said that vocational education was the main reason why they stayed in school. In general, findings suggest that vocational education and work experience are powerful in supporting school retention but that they are most effective when combined with other program features. When determining the value of vocational education in dropout prevention, it is important to examine the quality of the vocational education experience. Casual exploration through vocational courses or work experience that is not related to learning goals are less effective than major concentration in a vocational program.

Young adults who have dropped out of school tend to have low basic skills levels that prevent them from entering work and education and training programs. Adult basic education (ABE) has developed programs to meet the needs of young adults. Through ABE programs, young adults obtain the basic skills needed to enter high school completion and vocational training programs and to obtain jobs. Of adult basic education students, 65% are in the 16- to 35-year-old age group; 53% have achieved less than a high school education. Research on the effects of ABE programs (Darkenwald & Valentine, 1984) shows that participants improve their self-concept, gain confidence in themselves, and achieve their personal educational goals.

Future Directions

Although career and vocational education programs have been shown to contribute to school retention, their overall impact can be improved by strengthening and modifying existing programs to better meet the needs of potential dropouts.

Early intervention has been stressed and general characteristics of dropouts have been identified. Procedures are needed to help local schools develop identification procedures that are based on local student information and consider multiple factors (Weber, 1986). After identifying who might drop out, effective, early intervention programs should be targeted to these identified youth.

The transition into high school is a point when students need to develop commitment and motivation for completing their high school program. They also need to believe that the high school program is relevant to adult roles that they will assume when they leave school. Intensive career education and exploration experiences can support the transition of dropout-prone students into high school. The experience should lead to the development of individualized plans that include educational goals, strategies to reduce barriers to the achievement of goals, and timelines for monitoring progress on these goals. Individualized planning approaches such as those used with handicapped students need to be adapted for use with dropout-prone students.

Characteristics of successful dropout prevention programs include administrative arrangements, teacher behavior and characteristics, student culture, and instructional design (Wehlage, 1983). Small programs with two to six teachers serving 25-60 students are most effective. Program staff have autonomy that allows teachers to assume authority and responsibility for solving problems related to the program. Teachers believe that all students can learn and that the teacher is responsible for ensuring learning. They see the student as a total person and relate to students in a caring way while setting high expectations and firm rules for the program. These teachers are also highly cooperative with each other.

Students in successful programs are cooperative rather than competitive. They view the program as a "family" and are willing to support each other. Successful programs have distinctive instructional features. Instruction is individualized and focuses on real-life problems. Experiential learning in community service, vocational, and outcome settings is stressed. These features of successful programs confirm the importance of considering multiple factors when designing programs and the need to disseminate successful program models nationally.

For vocational education to have optimal impact on school retention, potential dropouts need to participate in vocational education programs in a meaningful way. Schools need to take specific steps to increase enrollments and to ensure comprehensive rather than random, exploratory participation. These steps include helping students view vocational education as a viable educational option; conducting outreach and recruitment programs for dropout-prone students; and helping students identify, enter, and complete comprehensive vocational education programs that lead to occupational skills development.

Work-study activities can provide financial support for students and increase motivation for school achievement. However, if not carefully planned, work-study activities can have a negative effect (Weber, 1986). Work-study activities should include specific objectives, diverse experiences that are linked to the students' educational program, close ties between the employer and the school, and evaluation standards to review the quality of work-study activities.

How Can Articulated Secondary-Postsecondary Programs Support Quality Occupational Training?

The excellence movement has resulted in renewed interest in strengthening the secondary school curriculum to ensure higher levels of basic skills achievement. Parnell (1985) highlights the need for high school curriculum reforms to include carefully articulated secondary-postsecondary programs.

In early 1985, 40 states had increased high school graduation requirements, and 27 states had or were considering separate requirements for an advanced or college-preparatory diploma (Dyrenfurth, 1985). This trend will result in a more uniform curriculum for all students. This should help to

change the previous trend for many students to follow a general curriculum in high school that neither prepared them for college attendance nor for less-than-baccalaureate-level occupational training. Between 1975 and 1981, 36% of high school students were in the academic track, 43% in the general track, and 19% in the vocational track (2% were unidentified).

However, a college-preparatory curriculum in which all students have similar educational experiences may not reflect the needs of students or of the occupational demand structure. Although there has been an increase in baccalaureate-degree holders, at least three of four public school students will not achieve this degree. The U.S. Department of Labor (1984) identified the 50 fastest-growing occupations. None of them are low-skill jobs and only two require a baccalaureate degree. Increased use of technology in most occupational areas is creating new demands for skill and knowledge. Although projections suggest that there will be relatively few high-tech jobs, most jobs will be influenced by technology. Parnell (1985) argues that training of technicians with a broad understanding of the principles as well as the applications of technology is needed to respond to the shifting workplace.

The articulated secondary-postsecondary, vocational-technical curriculum is an emerging response to the need to provide technical and basic skill excellence for the three out of four students who will receive less than a baccalaureate degree. Articulation is the process of developing and implementing coordinated curricula at the secondary and postsecondary levels. These articulated curricula provide courses of study that students begin during the high school years and complete by attending a community college or postsecondary technical school. They are carefully structured to avoid duplication of learning, to support the smooth transition from one level to the next, and to result in the achievement of higher-level technical competence.

Articulated programs can provide several benefits for both students and educational institutions (American Association of Community and Junior Colleges and American Vocational Association, 1984). These include reduced duplication of learning, more effective and efficient learning, improved program content and standards, and fuller use of existing program facilities and equipment. Articulated programs can help both secondary and post-secondary institutions respond to the need for excellence. At the high school level, programs combine basic skills and technical competence to improve the quality of vocational education offerings. These more rigorous programs that are closely linked to postsecondary education provide a more attractive option for students and can help support high school completion. Postsecondary institutions will also benefit by having larger enrollments of better prepared students.

Long et al. (1986) conducted a national survey of existing secondary-postsecondary program articulation efforts. They conclude that all articulated programs share the goal of saving students both time and money by avoiding duplication of learning. However, some programs move beyond these goals by teaching more advanced skills than can be delivered in unarticulated programs.

Time-shortened articulated programs that allow students to receive postsecondary credit for high school work can be considered as advanced placement programs. These programs vary in their complexity. In some cases, they are direct arrangements between the high school and the post-secondary school developed by a few people. In other cases, they involve comprehensive planning committees and administrative structures. Increasingly, the impetus for these agreements originates in state-level policy (Maryland State Board for Community Colleges, 1984).

A major need in articulated programs is an effective method of verifying learning at the high school level, and of evaluating those learning experiences or establishing postsecondary credit. Various approaches are used, including teacher recommendation, external testing, and competency-based curricula. Competency-based curricula are effective since the assessment of competencies taught and mastered is built into the curriculum. Time-shortened programs provide cost-effective, motivating, high-quality occupational training. These programs hold promise for improving the quality of occupational training for many occupational areas. However, in the light of the growing demand for "master technicians" (Parnell, 1985), there is an additional need, that articulated programs result in high-level skills and knowledge. Two promising approaches to articulated advanced-skills programs are the high school core technical curriculum and the vocational-technical 2 + 2 programs (Long et al., 1986).

The core curriculum provides intensive instruction in the principles of technology to help students develop the core knowledge base needed for postsecondary-level, high-technology training. The Center for Occupational Development has developed a "Principles of Technology" curriculum that covers principles of physics needed for advanced technical training in such programs as medical equipment technician and computer-aided design technician. Students who have taken the core technology curriculum at the high school level are able to bypass introductory courses and move to advanced levels upon postsecondary school entry. The core curriculum focuses on basic technical principles rather than specific skill training. High school students have the option of combining the core curriculum with other vocational education in high school or delaying specific skills training until the postsecondary level.

The vocational-technical 2 + 2 curriculum also focuses on developing advanced skills for high-tech occupations. These programs provide a comprehensive, four-year technical training program that is entered during the last two years of high school and completed at the end of two years of postsecondary training (Parnell, 1984). These 2 + 2 programs provide four years of study focusing on three major knowledge areas: basic skills (mathematics, science, communications, socioeconomics, and computer literacy), technical core skills (a set of knowledge and skills shared by a general occupational area), and specialty skills.

Future Directions

Projections indicate that secondary-postsecondary articulation arrangements will become more numerous and comprehensive in the future. Future efforts need to focus on guaranteeing relevant curriculum to meet student and labor market needs, developing state-level policies to support articulation, and developing and implementing local articulation plans.

When developing articulation agreements, the needs of students should be foremost. Higher unemployment rates are tied to lower educational attainment levels. Many employment opportunities require less than a baccalaureate degree but do require training that is relevant to changing job demands. School retention is a national concern and can be stimulated by the availability of training options that relate to career goals and are cost- and time-effective for students. While there is increasing demand for technicians, the major demand still clusters in other, more traditional occupational areas. Articulation plans that are based on student needs will include diverse options that provide for both time-reduced training and increased skill-level training. Programs also need to focus on such services as outreach, recruitment, counseling, and placement that help students set career goals, select appropriate educational options, complete articulated training, understand career ladders within their training area, and obtain job placement.

Although articulated programs have been developed locally without the impetus of state-level policy, the extensive emergence of local agreements will be facilitated by state policy. In some cases, state administrative arrangements have been a barrier to articulation. Often, different state agencies have jurisdiction over secondary and postsecondary education. Several options are available at the state level. Florida has a policy that permits high school students to enroll in a community college and receive both high school and college credit. Other states, California for one, have policies that encourage but do not mandate cooperation. A few states are developing policies that mandate cooperation. In Illinois, the State Board of Education and the Community College Board have proposed formal articulation agreements between secondary and postsecondary levels. These agreements must address four areas: (a) program alignment and continuity in a given occupational area; (b) transition of students from one level to another without undue delay or duplication of learning; (c) cooperation in use of equipment, facilities, and staff, when feasible; and (d) cooperation in ongoing evaluation and improvement of programs (Galloway & Washburn, 1985). An analysis of current state policy and the revision of policy to support articulation are needed to promote cost-effective, efficient secondary-postsecondary coordination.

While state policy can support or even mandate cooperative planning, its success rests at the local level. Long et al. (1986) found that local factors such as turf conflicts, faculty resistance, poor communication, and incompatible curriculum were greater barriers than external problems such as state-level policy. Case studies of successful programs led the authors to conclude that core elements of successful programs were (a) leadership

and commitment from the top; (b) early faculty involvement; (c) relationships based on mutual respect and trust; (d) mutual benefits to all partners; (e) written articulation agreements; (f) open, clear, and frequent communications; (g) modest initial goals; (h) clearly defined responsibilities; (i) competency-based curricula; and (j) a common focus on mutual goals rather than on individual turf. These factors are supported by suggestions for local articulation provided by Parnell (1985). Local secondary and postsecondary schools need to recognize the benefits of articulation for both the institution and its students, to make major administrative commitment to the development of effective articulation, and to allocate resources to the development and implementation of these arrangements.

An increasing number of emerging articulation agreements support curriculum coordination between secondary and postsecondary institutions. These agreements improve the quality of vocational-technical education, create educational options that will support the availability of appropriately skilled workers to meet changing labor force demands, and provide viable educational options that can motivate youth to complete high school and postsecondary education. The directions described in this section strengthen the effectiveness of these articulated programs.

How Can Literacy Programs Increase the Literacy Rate Among Adult Americans?

Adult illiteracy is a complex, costly social problem. Each year, an estimated 2.3 million persons join the existing pool of those 27 million adults who are functionally illiterate. This number includes high school dropouts and "pushouts," legal and illegal immigrants, refugees, and others with limited English proficiency (U.S. Department of Education, n.d.). During the past three years, several national efforts have focused attention on the problem. These include:

- Announcement in September, 1983, by President Reagan of the Adult Literacy Initiative that is being carried out by the U.S. Department of Education.
- Formation of the Coalition for Literacy, an 11-member organization that works with the American Association of Advertising Agencies to implement a nationwide media campaign.
- Formation of the Business Council for Effective Literacy that is dedicated to helping generate greater corporate awareness of the functional illiteracy problem and encourage corporate support of local programs and planning in the field.
- Support of local adult literacy programs by B. Dalton Booksellers through funds made available from the Dayton Hudson Company.

As a result of these recent efforts, a number of aspects of adult literacy education have surfaced.

Individuals working in adult literacy education view it from different, and sometimes conflicting, perspectives. Several key areas associated with adult literacy education are the characteristics of illiterate adults, the use of volunteers in adult literacy programs, the impact of technology upon adult literacy, and the need for better linkages and communication within the field of adult literacy education.

Characteristics of Illiterate Adults

Lack of understanding of the characteristics of illiterate adults is a key area in literacy education, one that gives rise to a number of issues and problems. Research has tended to portray illiterate adults from a deficit perspective, embedded in a culture of poverty. Although illiterate adults may have a fully developed language system, the literature more frequently mentions that they fear failure in teaching-learning situations, have low self-esteem and self-confidence, and resist change. They may be characterized as inarticulate and unable to cope or think abstractly. A tone of mission and concern for the less fortunate (e.g., rehabilitating the malfunctioning adult into normal society) tends to dominate the deficit perspective (Fingeret, 1984).

A new picture of illiterate adults is beginning to emerge. Qualitative studies in which the adults themselves were provided opportunities to share their own perspectives give a more balanced and accurate view. Although they may lack formal schooling, many illiterate adults have educated themselves through their life experiences. This emerging portrait also reveals that many are frustrated with educators and programs designed to develop their literacy skills (Fingeret, 1984).

Intergenerational illiteracy is another concept associated with characteristics of illiterate adults. There is some evidence that illiteracy is cyclical. Families that place a high value on education are more likely to break the cycle. Although studies related to intergenerational illiteracy have been done with children, this is not an area that has been the subject of much discussion or research among adult educators.

Volunteers

Volunteers have become an increasingly important resource for adult literacy programs. Although volunteer tutors have formed the basis of the Laubach Literacy Action (LLA) and Literacy Volunteers of America (LVA) programs for many years, the use of volunteers in adult literacy programs has spread in the past 15 years to a number of other settings. Volunteers currently contribute to programs in such settings as federally funded adult basic education, community-based organizations, libraries, correctional institutions, and churches (Kangisser, 1985).

A number of recent developments have served to increase the visibility of the literacy volunteer movement. Chief among these has been the development of a national advertising campaign designed to attract volunteers into literacy settings. The campaign, which has developed through the efforts of

the Coalition for Literacy (CL) and the American Association of Advertising Agencies, prompted more than 50,000 individuals to offer their services in its first five months of operation (Ilsley, 1985).

As a result of increased visibility and use, volunteers are perceived as a valuable resource for adult literacy programs. However, a number of issues surround their use. One issue revolves around the concepts of "professionalism" and "amateurism." Many adult literacy educators believe that reading should be taught by a professionally prepared individual. Related to this belief is the fear that volunteers do not receive proper training, supervision, and other types of support. For example, both LVA and LLA provide volunteers with fewer than 20 hours of training; once they complete initial training, tutors are not required to continue training (V. Meyer, 1985). A second concern is the ability of organizations to deal with a rapid influx of volunteers. It takes resources --money and human--to train, place, and supervise volunteers (Kangisser, 1985). The need to train and place volunteers may strain the limited resources available to most adult literacy programs.

Although volunteers are used widely in many types of adult literacy programs, "very little is known about effective volunteer programs and the resources they require" (Fingeret, 1984, p. 44). Research about volunteer programs could help to eliminate some of the fears expressed regarding the use of volunteers as well as assist programs in using them effectively.

Impact of Technology

The impact of technology is another issue confronting adult literacy programs. Technology is affecting the workplace as well as the instructional arena. It is estimated that in addition to the 27 million functionally illiterate adults, another 40 million are only marginally capable of being productive workers (Elfenbein, 1983). While it was once possible for marginally illiterate adults to function in the workplace, advances in technology are making it increasingly necessary for employees to demonstrate higher levels of literacy for both entry-level jobs and job advancement. As a result of technological developments, a new category of adult illiterates is emerging: persons who do not have the skills necessary to function in the information age (Chall, 1984).

These observations are supported by findings from a recent study that investigated efforts by companies to upgrade the basic skills of their employees (Hull, Fields, & Sechler, 1986). Study findings included the following: the need for basic literacy skills to support workers' higher-order performance on the job is increasing; the nature of work is changing from highly segmented routinized duties to coordinated production processes with greater authority vested in individual production line workers; for high tech companies, a high school diploma is rapidly becoming the new standard for hiring employees; and in many cases, literacy skills are viewed by industry personnel as prerequisites to technical-skill training.

Technology also has the potential of changing the delivery of literacy instruction. According to Fingeret (1984), "the initial research in CAI [computer-assisted instruction] is exciting and promising, although limited at present" (p. 34). Fingeret also points out the lack of commercially available instructional packages that can be used in adult literacy programs. One of the benefits of using microcomputers in adult literacy instruction is that it is a vocational skill. Other forms of technology may also be useful for delivering instruction in adult literacy programs. However, not much is known about the extent of use of instructional technology or its effects.

Need for Better Communication

The fourth area involves the need for better linkages and communication within the field of adult literacy education. The establishment of linkages among the various delivery systems for adult literacy programs is a needed step. According to Fingeret (1984), "State and National leadership must be exerted to bring together all literacy educators regardless of program affiliation. Literacy educators must see their efforts as part of a complex, multifaceted approach to literacy education in the United States" (p. 41). She suggests that, for such linkages to be established successfully, literacy educators must be able to tolerate diverse approaches as well as articulate their own political and ethical frameworks. There is some evidence that linkages are being established among literacy providers. The Coalition for Literacy brings together several national organizations. A number of states have established state literacy coalitions, and local coalitions are being developed in some communities. These coalitions are seldom truly representative. The Coalition for Literacy, for example, lacks representation from a community-oriented organization.

Another need is for better communication among practitioners and researchers. According to Imel (1985), "People on the firing line are too far removed from those people who are doing research or who are disseminating information. There is a need to get into the forefront those people who are close to practice but yet who are knowledgeable about research" (p. 21).

Adult educators who are involved in adult literacy programs also need information from the fields of reading, writing, and cognitive psychology. In teaching reading, adult educators do not seem to do well with persons in the middle area (i.e., grade levels four to nine). It is fairly easy to get people from a zero reading level to about grade four, but after that it becomes more difficult (Imel, 1985). Chall (1984), a leading researcher in reading, suggests that research is needed on how more adults can be brought to a 12th-grade reading level. Adult educators need to communicate with researchers in other fields so that they can work to solve common problems.

Future Directions

Increasing the literacy rate of adult Americans will require multiple strategies. Current activity in adult literacy education bodes well for the future. However, a significant reduction in adult illiteracy depends upon a number of emerging emphases. These include increased research activity, the

development of new coalitions, and an increased emphasis on the prevention of illiteracy.

Although the increase in research activity in adult literacy has been encouraging, more research is needed in almost every area of the field. A report issued by the National Adult Literacy Project (Johnson, 1985) spoke to this point:

> Continued research is required to help fill the gaps in knowledge essential for improved practice. Of particular importance are unanswered questions about the differences in literacy development during childhood and adulthood, and about the functional requirements in diverse real-life settings where literacy demands occur. (p. 21)

Fingeret (1984) also discussed the need for additional research saying that "the conduct and utilization of research should become a research priority" (p. 43). She calls for research to provide information about the following areas: the processes through which adults learn to read, effective volunteer programs and the resources they require, the characteristics of illiterate adults, and the technology of instruction.

The formation of coalitions will continue to play an important role in the development of adult literacy programs. The Coalition for Literacy has already established a model for using this strategy to combat adult illiteracy. Adult educators are recognizing that the problem of adult illiteracy is of such magnitude that there is plenty of "business" for all providers. In other words, there is no shortage of clientele for existing programs. There is also increasing recognition that a range of program opportunities needs to be available to serve diverse student populations. Thus, it makes sense to form coalitions to provide services for adults seeking literacy education.

Increasingly, business and industry are playing a role in adult literacy education. Not only are many companies providing support for local efforts, but also some are sponsoring in-house adult literacy training programs for their employees. As coalitions are formed, every effort should be made to include business and industry representatives as well as representatives from more traditional providers of literacy education.

Although remedial measures are needed to combat adult illiteracy, more attention is being focused on its prevention. Effective preventive measures cannot completely eliminate adult illiteracy. They can, however, reduce the flood of 2.3 million new adult illiterates entering the pool each year.

The National Advisory Council for Adult Education and the National Adult Literacy Project (Johnson, 1985) have emphasized the prevention of illiteracy in recent reports. The reports on educational excellence have increased the public's awareness of the need to increase achievement levels during K through 12th grade. Specific strategies mentioned by Johnson (1985) that can be used to prevent illiteracy include more transgenerational

programs that help illiterate or semi-illiterate parents become role models for learning; public library programming for children and youth; and identification and dissemination of successful strategies for teaching reading.

Existing literacy programs are able to serve approximately 4 million adults per year. Given the influx of adult illiterates into the population yearly, current efforts make little or no headway in reducing the total number of illiterates. The solution to the problem of adult illiteracy will require the combined efforts of the public and private sectors; the individual efforts of both professionals and volunteers; and additional resources to fund needed research and to support new programs.

Summary

This chapter has examined four representative issues affecting the fields of adult, career, and vocational education. These include: (a) What career-related curriculum should be incorporated into the new basics? (b) What contributions can vocational and career education make to reducing the dropout rate? (c) How can articulated secondary-postsecondary programs support high-quality occupational training? and (d) How can literacy programs increase the literacy rate among adult Americans? These issues are representative of various educational levels and grow out of three major trends, including the effects of a changing workplace on occupational and educational requirements, the growing concern for reaching disconnected youth and adults, and the current emphasis on educational excellence. The purpose of this review has been to clarify the context surrounding each of the issues, to describe emerging and promising educational approaches, and to suggest future directions needed to strengthen research, development, dissemination, and implementation.

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