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ABSTRACT

A study examined the relationship between vocational-technical education (including guidance) and apprenticeship. The existing literature was examined, and key issues in this relationship were identified. These issues were then validated through personal interviews with a sample of state guidance leaders. The information gathered during these interviews was then used as the basis for formulating recommendations to the Department of Labor concerning actions that could improve collaboration between vocational-technical education and apprenticeship. The principal barriers to collaboration identified were: (1) the apprenticeship selection process, (2) the perceived inadequacy of vocational-technical training, (3) the lack of awareness of and communication with other training entities, and (4) turf issues. The following five activities for improving the credibility, quality, and scope of apprenticeship training were identified: information exchange, research, curriculum development, personal development, and guidance career information and assessment. (MN)

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APPRENTICESHIP 2000: THE STATUS OF AND RECOMMENDATIONS FOR IMPROVED COUNSELING, GUIDANCE, AND INFORMATION PROCESSES

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U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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FOREWORD

The nation's leaders in both the executive and legislative branches of local, state, and federal governments are showing unprecedented concern over the creation and retention of jobs for the civilian work force. This concern has been accompanied by a focus on educational excellence and the demand for training programs of higher quality, including apprenticeship training.

Government officials and educational leaders have underscored a major commitment to support economic development. High-quality vocational education and training programs, especially apprenticeship training, may well be critical to this economic development thrust. Moreover, the involvement of business, industry, and labor in the planning and evaluation of these programs has been viewed as essential if this goal is to be realized fully.

This study is based largely on the premise that vocational education programs in many states and communities could be greatly improved through strengthened linkages with organized labor, employers, and vocational education, a notion that varies immensely across the United States. One can easily surmise that there must be some reason for this wide variance in the amount of cooperation provided.

Second, this study deals with the role counseling, guidance, assessment, and career information play in preparing youth and adults for deciding about possible entry into and eventual success in apprenticeship training. The conclusion is that much reskilling of the nation's counselors is needed and that much improvement is needed in the development and delivery of career and labor market information.

Last, this report brings new insights into needed change if the goals of Apprenticeship 2000 are to be realized. Particular emphasis was placed on the premise that serious consideration should be given to increasing the role of apprenticeship in preparing workers for a greater number of occupations. In this study we examined where and how such expansion should occur, what barriers need to be overcome, what would the delivery system look like, and what role the government plan in such expansion.

Appreciation is extended to Gary M. Grossman, Research Specialist, and Harry N. Drier, Research Scientist, who served as co-principal investigators. Special appreciation is also extended to Roy L. Butler, Senior Research Specialist, who provided valuable advice and assistance on several aspects of the study.

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Thanks are due to the 21 State Guidance Supervisors and State Occupational Coordinating Committee directors for participating in the data collection interviews. Likewise, appreciation is extended to the panel of national experts who reviewed the draft report and provided insights and recommendations for its improvement.

Ray D. Ryan
Executive Director

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EXECUTIVE SUMMARY

New technologies have dramatically altered the structure and nature of the American workplace. Not only have the types of available occupations changed, but the requirements of the workplace have changed as well. This, of course, ensures that skill levels, both academic and vocational, which were entirely adequate only a short time ago, are becoming increasingly obsolete. Such changes threaten workers with dislocation, stress, underemployment, and other barriers to success in the world of work. Yet, this is not the only problem resulting from new technologies in the workplace. The ability of employers to compete in world markets is impaired as concern grows about the quality and efficiency with which workers develop and deliver American goods and services. This concern has cataclysmic potential.

At the core of this problem is the manner and method of how workers are trained. Clearly, the key to bridging the gap between the skill levels that are required and those that workers possess is the development of better approaches to training workers to cope with change.

Based on this perspective, the U.S. Department of Labor has commissioned ideas for improving apprenticeship training, referred to as "Apprenticeship 2000." The Department is interested in exploring the viability and improvement of the apprenticeship system as it exists today. It is also interested in the expansion of access opportunities for apprenticeships and preapprenticeship programs in new and emerging occupational areas. This is clearly

a worthy goal for the future, as apprenticeship-style training programs are often credited with combining instruction in appropriate basic, employability, and occupational skill areas. All of these areas are crucial elements workers will need for the workplace of the 21st Century. Accordingly, one purpose of this report is to identify those strategies relevant to such a national effort in the areas of vocational education, vocational counseling, assessment and information processes.

But there is another purpose as well. Insofar as this effort to bridge vocational education and related training resources is not a new consideration, a number of barriers have been identified over the years. Issues surrounding these barriers must be resolved if apprenticeship-style training is to provide a genuine training alternative in meeting the challenges of the year 2000. These issues revolve around the structure of the relationships that are critical to this process. It is therefore of great importance to identify and clarify those barriers with the purpose of providing some approach to resolution of the difficulties. In this regard, the perspective of the vocational guidance state leadership is examined.

The guidance community is important in several respects. First, the literature on apprenticeship training has generally ignored their contribution and role in the marketing, selection and preparation of prospective apprentices. This oversight is symptomatic of a global problem of communities addressing this issue in isolation from one another. Secondly, the vocational guidance community will provide a critical part of the new agenda,

that of translating new policy and practice to its fruition in the public school systems. State directors of vocational guidance, in particular, play an important role insofar as they have an involvement in policy creation at the state level and are also responsible for providing the structure and disseminating the supporting materials and funds to ensure the implementation of policy. Hence, any effort to bridge the apprenticeship and vocational education systems must consider the perspectives of these key individuals very carefully.

As such, this study takes several different but related approaches. First, it surveys the existing literature and identifies key issues involved in the relationship between vocational-technical education including guidance, and apprenticeships. It then validates these issues through personal interviews with a sample of state guidance leaders, as well as seeking input from these individuals concerning solutions. Finally, based on these data, recommendations are proposed to the Department of Labor in all of the relevant areas which are believed to have an impact toward the improvement of relevant linkages. Key findings of the report are now summarized and more elaborate development are in the body of this report.

The Apprenticeship-Vocational Education Linkage: Issues from the Literature

A linkage between vocational-technical education and the apprenticeship system has been a persistent theme in the literature and in legislation aimed at addressing this issue. Beginning with the Smith-Hughes Act of 1917 and continuing through the Carl

Perkins Act of 1984, the attempt has been made to identify a harmony of purposes between these two training modalities. However, this "marriage" has been less than successful. While there have been isolated examples of effective relationships, these have tended to be exceptions to the rule. In many ways, these two entities have often been competing approaches rather than being integrated in a systematic way. Of particular note as constituting barriers are:

1. The apprenticeship selection process--including a lack of equity considerations for women and minorities, "inheritance" of apprenticeship opportunities, and gatekeeping by apprenticeship leaders.

2. The perceived inadequacy of vocational-technical training--on the part of apprenticeship leaders. Included in this assertion are such issues as the type of student believed to be attracted to vocational-technical education and the differential scopes of the two training approaches.

3. The lack of awareness of and communication with other training entities--in terms of mutual understanding and communication. Apprenticeship leaders know little of vocational-technical education. Educators lack an understanding of apprenticeships.

4. "Turf" issues--such as concerns about the locus of control of the apprenticeship system, creating barriers to "outsiders" in terms of both opportunities and effective relationships.

The existence of these barriers create hardships to any positive movement toward the goals of Apprenticeship 2000 insofar as communities which represent portions of the solution are kept apart from one another. Ironically, in recently released data by the U.S. Department of Labor, no community was more supportive of the expansion goals of Apprenticeship 2000 than educators, yet a

substantial lack of information and access exists to this community.

Survey Results

In a study of 21 state leaders of vocational guidance representing 18 states in every region of the nation, several important findings were identified:

- The vast majority of the sample (80%) felt that the skill level of the American workforce impacts the ability of the nation to remain competitive in world markets. An even larger percentage (82.4) believe it to be a serious problem.

- "Improper preparation" of workers was the cause of the problem in response to an open-ended question, local schools and colleges defined as the source of the solution, but with a clear business-industry involvement.

- Vocational-technical education was most often cited as the most effective type of training option, apprenticeships identified as the second most effective.

- Both with regard to youth and adults, the respondents identified a significant lack of visibility and access to apprenticeship programs.

- An overwhelming majority (65%) stated that guidance counselors in their state had little or no knowledge about apprenticeship opportunities.

- The primary source of information about apprenticeships is provided to the schools through computerized career information systems, which a substantial portion (40%) recognize as generally deficient in terms of quantity, a position validated through an analysis of information provided by the major firms involved in career information delivery.

- Only 2 of 21 state guidance leaders had any relationship with state or local apprenticeship boards or entities.

- Support for expansion of apprenticeships into new and emerging occupations and for the creation of preapprenticeship programs in vocational-technical schools and colleges was unanimous.

Based on these data, the Department of Labor needs to take into consideration and address gaps in the following areas:

1. Informati n quantity and quality
2. Visibility barriers
3. Inadequate relationships across modalities
4. The lack of a clearly identified locus of responsibility for managing change.

These data also support a call for improvements in the way potential apprentices are assessed and taken into the system, the role of career information, in terms of the credibility and quality, and the expansion of the apprenticeship system. Specific recommendations in these areas are made later in the report, but summarized here.

The Career and Labor Market Information System

The Bureau of Apprenticeship Training (BAT) should consider a national effort to collect, organize, and provide all public and private managers/developers of career information systems and products a complete data file on apprenticeships. This would guarantee that all future users of career information systems would be directed to apprenticeship information without having to specifically seek it and would receive complete and comprehensive information with which to make an informed decision relative to apprenticeships as a career option.

The Role of the School Counselor as Information Broker

If BAT wants to improve and increase the degree to which schools have and utilize apprenticeship training information, it

must put the school and agency counselor at a high priority. It can do so in the following ways:

- Provide adequate resources to counselor training institutions
- Conduct training for school and agency counselors
- Provide apprenticeship training information to all school and agency counselors nationwide
- Influence state and local apprenticeship councils to appoint as members state and local vocational guidance personnel
- Improve responsiveness and information quality from State Occupational Information Coordinating Committees (SOICCs)

Intake and Assessment

The key to effective student use of educational and training opportunities is accurate self-knowledge. Determining those strengths and weaknesses are important in determining the suitability of an individual for apprenticeship training. The counseling community needs to know more about and be better prepared than they are now in providing students or clients with this kind of assistance. Specifically, the following are recommended:

- The designation of one educator at each secondary and postsecondary institution serving as a liaison to the apprenticeship system and to be responsible for knowledge of the relevant laws and regulations.
- The designated liaison should seek candidates, provide assessment, and match appropriate candidates with apprenticeship opportunities.
- Institutions need to ensure that six specific resources are in place to provide students with necessary support services:

  1--Skill remediation opportunities

  2--Orientation and counseling

3--Skills development

4--Academic credit for apprenticeship completion

5--Necessary special services for minority, handicapped, LEP students, etc.

6--Evaluation of program performance

- The provision of renewal and update training for vocational-technical education staff on a regular basis

Activities for Improving the Credibility, Quality, and Expansion of Apprenticeship Training

The proposals for these activities can be classified into five different areas:

1. Information exchange
2. Research
3. Curriculum development
4. Personnel development
5. Guidance career information and assessment

I. Information Exchange

a. Establish an annual conference to promote cooperation and linkage between labor and vocational education leaders

b. Provide frequent state level apprenticeship training communication between state guidance leaders, career information delivery system operators, and SOICC staff

c. Establish a national resource center for apprenticeship training under the auspices of BAT

II. Research

a. Explore the factors contributing to cooperation and linkage between vocational education and labor

b. Commission a study to explore a method by which to grant vocational students advanced standing when they enter apprenticeship programs and to grant apprenticeship trainees college credit for such training

III. Curriculum development

a. Develop competency-based instructional materials (CBE) for training apprenticeship coordinators

b. Create staff development materials on the implementation of CBE apprenticeship training programs

IV. Personnel development and training

a. Develop procedures for and implementation of a model of personnel exchange programs for vocational-technical educators and labor leaders and staff

b. Establish a training conference of state guidance, career information delivery, and SOICC leaders in apprenticeship information

V. Guidance career information and assessment

a. Commission a comprehensive study of apprenticeship information within existing career information delivery systems and seek recommendations for improvement.

b. Study relationship between intake and assessment methods and instruments and apprenticeship training needs to identify the optimal system for school-apprenticeship system linkages.

Conclusion

It is hoped that many of the recommendations cited prove of value to the U.S. Department of Labor. There are several that can be undertaken with a minimum of cost but that would provide information about or actually improve existing linkages between the vocational-technical education and apprenticeship systems. By themselves, each would prove to have some small contribution. Indeed, there are others we have not mentioned which would provide value to the overall effort. But we also stress to the Department of Labor that it is the overall effort which is important.

Whether Apprenticeship 2000 is a major step toward an apprenticeship system that provides access and opportunity to all Americans or is merely a programmatic comet across the horizon never to be seen again, does not depend on any given set of specific recommendations. Rather, it depends upon the commitment of its sponsors to the overall goal. We describe at some length the barriers with respect to a linkage between vocational-technical education and the apprenticeship system. We provide sound recommendations as to how these gaps might be remediated. Even if, however, all of our suggestions are utilized, they will be of little value unless accompanied by equivalent action with respect to all of the many linkages involved in the relationships between apprenticeships and other entities. Indeed, perhaps the central recommendation we can make is that the Bureau of Apprenticeship Training be empowered, funded, and expanded to implement these recommendations and provide the unity, visibility, and leadership this issue so desperately needs. If it is not BAT, some other agency will have to undertake it or Apprenticeship 2000 will escape from our grasp. The challenges we face in the future are formidable. An open, accessible, and fair apprenticeship system clearly articulated with respect to other employment training entities would be a positive step. We offer this analysis and the following recommendations toward that end.

CHAPTER I. VOCATIONAL EDUCATION, COUNSELING, AND INFORMATION PROCESSES

Introduction

New technologies have dramatically altered the structure and nature of the American workplace. Not only have the types of available occupations changed, but the requirements upon workers in those occupations have changed also. As such, the skills demanded in the workplace only a few years ago are in many cases obsolete. This, of course, threatens workers with dislocation, underemployment, and other barriers to success in the world of work. Equally, employers are threatened with the inability to compete in national and world markets because of a lack of a capable and competent work force to deliver goods and services efficiently. By all estimates, this gap is expanding as the rate of technological change increases. Indeed, a serious problem at present has every potential to become cataclysmic in the near future.

At the core of this problem is the manner and method of how workers are trained. In many cases, skills learned in traditional approaches to employment training are those appropriate to a generation ago, but wholly dysfunctional in today's workplace. Clearly indicated is the need for new approaches to not only develop workers with relevant skill bases at the entry-level, but also a mechanism to provide for retraining workers to cope with technological change as it occurs. In addition, the demands of the educational reform movement strongly suggest that any training package include adequate levels of preparation in basic skills.

As well, the changing workplace demands that the transferability of employment skills be emphasized in order for the worker to cope with a dynamic environment. It is, therefore, a highly appropriate moment to reconsider the bases and the purposes for which we train workers, the resources we utilize, and the ultimate product of our efforts. Along these lines, this report offers an analysis of how the resources are currently being used with respect to the apprenticeship system and suggests recommendations toward the merger of the apprenticeship system and vocational-technical education as a practical vehicle for meeting the challenges of employment training as we approach the 21st Century.

Accordingly, the purpose of the report is to determine what strategies might increase the effective use of the systems of vocational-technical education in supplying a steady source of qualified potential apprentices. Examined is the potential for and barriers to such a merger, focusing heavily on the perceptions and attitudes of the vocational guidance community, the primary conduit of occupational and training information to potential apprentices. The report also offers a review of the existing literature relevant to the apprenticeship-vocational education linkage and recommends actions educators and others can take in areas such as career information delivery, intake, and student assessment. Finally, recommendations are made about the actions that government can take to facilitate further interaction and to implement a long-range plan of cooperation.

The Apprenticeship-Vocational Education Linkage: Issues from the Literature

Barriers to linkage

Insofar as a successful expansion of the apprenticeship system along the lines called for by the parameters of Apprenticeship 2000 depends on the establishment or enhancement of a relationship with vocational-technical education, a review of its current condition is in order. That such a linkage should exist is hardly a new idea. Indeed, the relationship between vocational education and the American apprenticeship system is a long one.

In some of the earliest legislation aimed at developing a national policy and effort in vocational education, such as the Smith-Hughes Act of 1917, the apprenticeship system was to be included and the attempt was made to identify a harmony of purposes between these two forms of employment training (Glover, 1986). Yet, despite continuous efforts, such as the Carl D. Perkins Act of 1984, the "marriage" has been less than successful, one in which "antipathy" is more descriptive of its nature than the term "cooperation" would be (Cassall 1976; Thomas 1983a, 1983b). Whereas there indeed have been published examples of effective partnerships (e.g., Renz and Styer 1986; Murray 1985; Shields 1986; Norton and Belcher 1984), these have tended to be exceptions that proved the rule instead of being characteristic of the issue as a whole (Glover 1986, 1987).

Indeed, in reviewing the relatively few studies that have examined the problem apart from advocating a specific agenda, the cases that have been cited regarding effective relationships con-

stitute exceptions to common knowledge in the field. These cases, clearly, tend to be testimonials to a situation hoped for by some, but found wanting generally. Apprenticeships and vocational-technical education, as modalities, have tended to represent independent, and in some ways competing, means of employment training rather than being integrated in some systematic way. Student or client movement between them has, given considerable evidence, been impaired. The identification of these "barriers" is of course of great importance in pursuing a strategy of greater consequence between these two training approaches.

A number of studies have attempted to identify the barriers to an effective relationship between vocational education and the apprenticeship system; still others have focused on solutions to the problem. Prominent among the points cited as constituting potential or actual conflicts are the following (Thomas 1983a):

- The apprenticeship selection process: Limited access of opportunity has been often cited in the literature as impairing the vocational-technical education apprenticeship linkage. Among these issues are the lack of equity considerations for women and minorities (Glover 1986; Murray 1985), "inheritance" factors (Shields 1986; Westbrook and Butler 1981), and gatekeeping activities (Glover 1980).

- The inadequacies of vocational education as preparation. Another frequent concern refers to the perceived inadequacy of vocational education students for the rigors of apprenticeship programs (Thomas 1983b). Discussions of this problem concern the type of student assumed to be attracted to vocational education (e.g., low-income, low-achievement, "problem" students) by apprenticeship leaders and the extent to which vocational education tends to prepare a student broadly whereas apprenticeships train on a much more industry-specific basis.

- Lack of awareness of and communication with other training entities. Expressed as a matter of knowledge and communication, a lack of awareness of opportunities outside of one's own area on the part of training system leaders is

viewed as limiting the effectiveness of relationships between the two training approaches. Vocational guidance personnel know little about apprenticeships. Leaders in the apprenticeship system know little of vocational-technical education. As such, a barrier to prospective apprentices is created;

- o "Turf" issues. Part of the failure of communication and interaction is believed to be a function of control of training processes, particularly the supposed control unions have over apprenticeship programs (Shields 1985). The allegations suggest that the desire for power and the maintenance of inflated wage rates artificially limit access to and information about the apprenticeship system. This, in conjunction with inheritance factors, is believed to make it difficult for "outsiders" to become apprentices or for effective linkages to occur.

To this rather imposing list, Glover (1986) adds several more items, including the fact that employers tend to shun young workers, the type that would have had vocational education backgrounds.

This phenomenon is also identified in another context by Halperin (1988) who cited employer resistance to young workers as a chronic barrier to youth employment in general. In addition, one of the most crucial barriers may well be organizational in nature, the fact that apprenticeship in America exists with varying degrees of program quality and administration, according to Glover, "without a clear leadership." In other words, if indeed it was deemed to be desirable that these barriers be overcome, there would be no entity capable of speaking for the apprenticeship system as disparate as its bases are.

Norton and Belcher (1984) identified eight "clusters" of barriers inhibiting a relationship between the apprenticeship system and vocational-technical education. They include the following:

- o Feelings of mutual distrust between parties
- o Communication problems
- o Concerns over program control
- o Financial limitations
- o Trainee placement concerns
- o Program quality issues
- o Insufficient research directed toward practitioner audiences
- o Lack of concern for training outcomes

These points reinforce the general tendencies of the literature, highlighting rather substantial difficulties in this "marriage" of training modalities.

Taken together, the literature cites two basic types of barriers, the differentiation of which has not truly been made explicit in previous studies. In general, some of the studies point to what might be called social psychological aspects, such as, interactive or relationship concerns involving feelings of distrust, communications problems, and deficits of information and awareness. Remediation of these issues is straight forward and the literature repeatedly comes up with the same set of "facilitators," to use Norton and Belcher's terminology: open up communication, share resources, and expand information bases. These approaches have been cited in by Norton and Belcher (1984), Renz and Styer (1986), and Murray (1985).

A very different kind of barrier, less extensively cited in the literature but perhaps even more important, is of a structural nature. Issues of this kind include such questions as the locus

of control of the apprenticeship system, "gatekeeping" and its purposes, restricted entry into apprenticeship opportunities for women and minorities, and the distribution of power in both the apprenticeship and vocational-technical education systems. Solutions to these barriers involve alterations in the apprenticeship system itself, legislative action, and a general redistribution of power, responsibility, and resources between labor and management, education and labor, and state and national government.

Overall, the literature has relatively deemphasized these kinds of approaches, although some of Glover's (1986; 1987) recent work stands in prominent contrast to this general tendency. In this set of studies and in the work of Hamilton (1987) and Russell et al. (1986), a contrast is drawn between the apprenticeship system in the United States and the "dual system" of employment training in other countries. The American system is vastly different and to some vastly inferior. The central problem addressed in these studies is the extent to which American apprenticeships should be modeled after those found in other nations and the steps to be taken to make it happen.

Clearly, one question emerging from the literature concerns the types of problems, in terms of their identities and their natures, that constitute barriers to apprenticeships in America from representing the degree of employment opportunity they could, particularly given some reports of labor shortages in certain craft areas. Another area deals with who is responsible for the problems and who should be responsible for remediating them.

Equally, the literature raises the question of what those solutions should be and whom should benefit.

The exploration of these issues is definitely within the purview of this project. However, the mandate of Apprenticeship 2000 concerns other issues as well. Indeed, any proposed expansion of apprenticeship opportunities into new and emerging occupations must address not only the perceived barriers in the current apprenticeship system, but also a host of additional concerns. The most central of these concerns is the degree of support for such an idea in the respective interest communities that would participate in an expansion.

That over 70 percent of respondents to a Department of Labor (1988) request for comments about Apprenticeship 2000 are in favor of such expansion indicates the need for greater inquiry on this point. The Department of Labor has correctly observed that such support is necessary for any such expansion to be effective. Moreover, these data indicate that the greatest degree of support from any constituency comes from the educational community, 94 percent of those respondents favored the expansion of apprenticeship opportunities into new and emerging occupations. This finding is significant because the source of workers for these apprenticeship opportunities would, in all likelihood, be students currently in school, the "bridge" for which would be school administrators, counselors, and teachers. Two points in this regard are worthy of note. First, the attitudes of educators toward the apprenticeship system and their knowledge about it are among the least considered dimensions in the literature, at least insofar as

sophisticated analysis is concerned. Second, if apprenticeship opportunities are to be expanded, either in terms of existing areas or in terms of new and emerging occupations, educators are crucial to the equation.

This study, therefore, proposes to examine these barriers primarily from the point of view of educators, specifically those involved in guidance and counseling and information delivery systems, to determine the extent to which these educators concur with the problems specified in the literature. In addition, we propose to establish the degree to which these educators, leaders in the transmission of information concerning the apprenticeship system, know about these data themselves and how they would go about solving the problems. Special note will be given to the structural or social psychological direction of their concerns. Finally, specific issues such as their endorsement of the expansion idea will be determined as well as their attitudes concerning vocational-technical education as a medium of preapprenticeship training.

Following the explanation of the methodology of the study, the data are analyzed and the bases of recommendations defined. Analyses of the state of career and labor market information is explored, especially as it relates to the counselor's role as broker. Intake and assessment procedures necessitated by expansion criteria are also explained. Finally, specific recommendations for future consideration by the Department of Labor will be proposed.

Methodology

The data for this study were derived from responses to a survey instrument that sought to define the attitudinal context of vocational and career guidance leaders to the issues of this study (see Appendix). Levels of concern about the quality of the American work force and the relative effectiveness of extant employment training methodologies in addressing competitiveness issues were established prior to proceeding to a sequenced set of questions about apprenticeships generally, the quality of the linkage between vocational education and the apprenticeship system both with respect to the individual states and regarding the nation, and the extent to which this critical community would support efforts concerning expansion. The survey examines this issue both in terms of a formalized preapprenticeship system establishing a linkage between vocational-technical education and apprenticeships and also with respect to the broader application of apprenticeship opportunities in terms of new and emerging occupations.

The respondents were composed primarily of state directors of vocational guidance. However, several State Occupational Information Coordination Committee (SOICC) leaders and one guidance counselor were included to provide the opportunity to compare responses. Data were collected principally by way of personal interviews conducted at the national meeting of the SOICC directors in Charleston, South Carolina, July 24-28, 1988. Additional

interviews were completed by phone in subsequent weeks following the conference.

The sampling strategy employed in this study was a purposive technique in which the attempt was made to set up appointments with as many vocational guidance leaders as were present and conduct as many interviews as time permitted. Although no inferences can be drawn as to the degree of statistical representativeness such a sample suggests, the proportion of state directors of secondary level vocational guidance was relatively high. This in addition to the clear patterns of response are at least suggestive of a close relationship between the data collected by the survey and the attitudes actually held by such persons in the population. In addition, the number and dispersion of states represented, this provides a strong argument for the utility of these data.

Table 1 and table 2 report these data.

TABLE 1:
RESPONDENTS BY REGION (TOTAL=21)

EAST	WEST
Maine (1)	Arizona (2)
Maryland (1)	Colorado (1)
New Hampshire (1)	Oregon (1)
Ohio (1)	Utah (1)

MIDWEST	SOUTH
Illinois (1)	Alabama (1)
Michigan (2)	Florida (1)
Missouri (1)	Mississippi (2)
Nebraska (1)	South Carolina (1)
Oklahoma (1)	Tennessee (1)

TABLE 2:
POSITION DISTRIBUTION OF RESPONDENTS

State Guidance Directors	17	(81.0 %)
NOICC/SOICC Leaders	3	(14.3%)
Guidance Counselors	1	(4.7%)
	21	(100.0%)

Based on the geographic distribution of the sample, a reasonable case can be made for the representativeness of the sample insofar as state directors of guidance are concerned. Clearly, no such assumptions can be made about the other groups mentioned. However, such an analysis will provide valuable information relative to the state guidance leadership in that this group plays a pivotal role in the linkage between apprenticeship information and vocational-technical education. Because any such relationship will require both policy inputs and the policy application process in order to implement a new apprenticeship agenda, it is crucial to note that vocational guidance leaders will drive both processes at the state level. Equally, if vocational guidance leaders are not involved, no effective partnership can be consummated. As such, no group is more important to the process than the guidance leadership community, the positions of which will form the

substantive and policy recommendations that emerge from this project.

Findings: A Summary of Survey Results

A strong consensus of opinion characterizes the responses of the guidance community in the survey (see Appendix). First, the vast majority of the sample felt that the skill level of the American work force definitely impacts the ability of America to remain competitive in the world economic market (80 percent-20 percent). An even larger number (82.4 percent) stated that this was a very serious problem for the United States. "Improper preparation" of workers in terms of skills was the modal stated cause of the problem, as identified by 45.5 percent respondents to an open-ended question. Local schools and colleges were charged with the greatest degree of responsibility for resolving this problem (40 percent), although business and industry (32 percent) is clearly identified in its solution.

Given the existence of a very serious skills-related problem and the identification of the education/training context as its resolution, the respondents were asked to assign a rank to five different types of training programs. As a group, the consensus of the respondents was that vocational-technical education was the most effective type of training (42.9 percent); an additional 28.6 percent stated that it was the second most effective. Apprenticeships ranked second: 6 individuals (28.6 percent) rated it as "most effective", 8 (39.1 percent) identified it as the second

most effective. Respondents ranked "specific training by employers," "On the job training programs", and "government job training programs" third, fourth, and fifth, respectively.

It certainly can be argued that this item reflects response bias insofar as the respondents have either an extensive background in vocational education and/or a job that is directly involved with it, as well as the fact that respondents knew that a portion of the survey concerned apprenticeship issues. However, the criteria for their choices are consistent with other survey results. Training scope and program breadth were the most highly valued aspects of job training, both vocational-technical education and apprenticeships earning high marks for their perceived ability to combine job/industry specific instruction with instructional support in the basic skills. As such, this item can be seen as being rated in terms of perceived training scope. Clearly, guidance leaders, in particular, view training for work that includes a dimension of transferability and potential growth as being most beneficial to the trainee.

Relative to specific questions about apprenticeships, the respondents showed some disagreement. Whereas a substantial majority (62.5 percent) felt that apprenticeship programs were "somewhat" to "very" effective, a substantial minority (31.3 percent) felt that they were "somewhat" or "very" ineffective. One explanation for this finding may have to do with the relative strength of apprenticeship programs in various states. It is generally believed, for example, that unions are stronger in the East and Midwest. As such, one may expect apprenticeships to be viewed

as being more effective in those states. In order to test this hypothesis, the perceived effectiveness of apprenticeships was cross-tabulated by region. Table 3 presents these results.

TABLE 3
PERCEIVED EFFECTIVENESS OF
APPRENTICESHIPS BY REGION

Apprenticeships	Region East	Midwest	South	West	Row Totals
Effective	4	3	4	5	16
Not Effective	0	3	2	0	5
Col. Totals	4	6	6	5	TOTAL 21

Chi Square= 5.38 d.f.=3 SIG.= .145

Tau C= .100 SIG.= .319

The data do not present a strong case for the hypothesis in question. Whereas there is some suggestion that the differential perception of apprenticeships may be regionally based, the data do not suggest that the mere presence or power of unions in areas is related to the effectiveness of apprenticeship programs. Further analysis of a regional explanation is not promising, however, as the cell sizes do not permit meaningful computation of the appropriate statistics with which to examine such a proposition.

Instead, subsequent items may offer some insight. A perception of apprenticeship ineffectiveness may have most to do with the lack of apprenticeship opportunities. Indeed, one of the allegations most frequently made against the apprenticeship sys-

tem is that, where programs exist, access to them is rigidly controlled. The data offer some support to that interpretation. Clearly, apprenticeships cannot be considered effective if, for whatever reasons, doors to opportunity are closed. The questions regarding the visibility of apprenticeship opportunities seem to suggest this interpretation. Both with regard to youth and adult workers, the vast majority of respondents reported that apprenticeships lacked significant visibility. In response to open-ended questions, a lack of promotion or information was the dominant cause with regard to youth, not opportunities themselves. Additionally, barriers to opportunity was the modal cause cited with respect to adults. A third factor, the lack of appropriate relationships or linkages, while not dominating either category, scored well with respect to both youth and adults (39.3 percent and 36.3 percent, respectively). These factors, probably in concert, caused respondents to state overwhelmingly (65.0 percent) that guidance counselors in their state had little or no knowledge about apprenticeship opportunities. Without question, this series of questions points up a severe lack of a structural relationship between the apprenticeship and guidance communities.

To the extent that the problem is informational, career information delivery systems provide much of the available data to vocational guidance counselors. Although some believe that it does so effectively, a substantial minority (40 percent) believe that it does not. This finding appears to come from the fact that the amount or quality of the information provided is inadequate.

This position is reinforced by other data that the authors collected from the two main providers of computerized career information: Houghton-Mifflin's "Guidance Information System" (GIS) and Oregon's "National Career Information System" (NCIS). In the GIS, less than 10 percent of the approximately 1,500 occupations list apprenticeships as a training alternative, and even in those cases, it is described in only one sentence. According to GIS staff, seven states formerly had separate apprenticeship files. Today, none have such information. With regard to NCIS, the information is far more complete, however generally fewer occupations are defined as apprenticeable. Given the primacy of Career Information Delivery Systems (CIDS) as a resource base, it is questionable how those who claim that CIDS deliver apprenticeship information effectively know enough to identify their shortcomings.

In terms of improving the quality of of information people receive, the respondents are split between such things as public awareness and content on one hand and access and linkage on the other. Responsibility for improvement of information, however, identified labor unions, business and industry, and state and local government almost equally. Once again, the suggestion is strong that an improved linkage of constituencies is required to a greater degree than is currently the case. This point receives amplification considering that only 2 of 21 respondents, most of whom are the chief vocational guidance leaders in state departments of education, have any sort of relationship with state local apprenticeship authorities.

Finally, support was measured for two key expansion issues: one that deals with the issue of whether there should be apprenticeship programs for new and emerging occupations, the other that is concerned with whether vocational schools and colleges should offer "preapprenticeship" programs in order to access them. The response was unanimous, all 21 leaders defining themselves as supportive of those two approaches.

The foregoing survey has provided a strong basis with which to view apprenticeships from the standpoint of the vocational guidance community. The following section will elaborate some of these major themes.

Implications of Survey Results

The survey of state guidance and occupational information leaders and the analysis of the literature in the field have highlighted several issues of critical importance to the goals of Apprenticeship 2000. As the Department of Labor proceeds, it will need to take into consideration the following points.

1. Information. A profound gap exists in the information base with which potential apprentices can be matched with available opportunities. Many likely candidates are denied access to the system simply because the counselor in the individual school has little information about these programs. Beyond that, there are few places to go for such information within the systems dealt with by the school counselor, insofar as the state director of guidance, in all probability, knows little and has no relationship with state apprenticeship leaders.

2. Visibility. Part of the problem of access has to do with the relative lack of visibility of apprenticeship programs. Whereas programs are indeed virtually nonexistent in some states, activity in many states where they do in fact exist is impaired by a lack of promotion on the part of apprenticeship officials. In addition, the apprenticeship system tends to have an ad hoc administrative

structure which denies potential apprentices and their counselors with a clear understanding of access.

3. Relationships. At virtually all levels of the system, leaders have few points of contact with which to interact and create partnership structures. The degree of this gap varies among states. Nonetheless, all parties--labor unions, business and industry, and education--suffer due to the lack of structured interaction.

4. Responsibility. The lack of points of contact diffuses the assignment of responsibility for making alterations and improvements in either the apprenticeship or vocational education systems in such a way that information could be shared, mutual distrust dissolved, and potential apprentices served. Even if all parties desired change, no one has the formal responsibility of making it occur.

The major consequence of these issues insofar as Apprenticeship 2000 is concerned is that expansion of the system, either in terms of available apprenticeship opportunities or regarding apprenticeship-type training slots in new and emerging occupations, will be impossible unless there is a resolution of these problems. Given the future as defined by Johnston (1987), among others, this will mean severe labor shortages in booming occupational areas, a poorly trained work force, and a unnecessary mismatch between the country's needs and its available workers. Some avenues of resolution are known, however. This study will now turn to analyses and recommendations regarding career and labor market information, the role of the guidance counselor in bridging these gaps, and improved intake and assessment procedures to identify potential apprentices and point them to opportunity. Finally, a set of activities will be recommended such that the credibility, quality, and expansion of the apprenticeship system can be enhanced.

CHAPTER II. RECOMMENDATIONS

The Role of a School's Career and Labor Market Information System and Program

Career and labor market information are concerned with the nature, conditions, and projections of work, education, and training demands of job opportunities and their overall occupational requirements. Whereas traditionally, the generation and dissemination of such information was in the form of books and other printed items, today's schools have available a most sophisticated, technology driven and consumer friendly array of information sources and systems. Films, videotapes, personal computer software programs, hard disc systems, telephone inquiry systems, microfiche files, and many other information systems are found throughout the nation.

Additionally, consumers have grown to regard current information systems as complete and accurate. Many of these new positive consumer values, plus efficient and accessible information methods, are associated with the leadership and programmatic work of the National Occupational Information Coordinating Committee (NOICC) and its state committees (SOICC). NOICC and the SOICCs were charged by the Congress in 1976 with establishing and providing career and labor market information systems and services unheard of anywhere else in the world. From their work, youth and adults are supposed to have available data on all aspects of job education and training, including apprenticeship training, military opportunities, and financial aid. Additionally, SOICCs are

to package labor market information for vocational education and training planners for future program decision making.

Coupled with the work of NOICC and their SOICCs is the national and state labor market analysis and projection work of the Bureau of Labor Market Statistics, U.S. Department of Labor, and their systems of research and analysis divisions within each state bureau of employment services. Taken together, they produce resources to assist individual career planning in entering or changing occupations. They are also designed to serve the education, training, and employment leadership to better match training opportunities with the projected labor needs of states. See table 4 for the major sources of federal and state labor market information sources.

TABLE 4

MAJOR SOURCES OF FEDERAL AND STATE LABOR MARKET INFORMATION

DATA SOURCE	DATA PRODUCER
CLASSIFICATION SYSTEMS	
Standard Industrial Classification Manual (SIC)	OMB
Dictionary of Occupational Titles (DOT)	DOL/ETA
Selected Characteristics of DOT Occupations	DOL/ETA
Standard Occupational Classification Manual (SOC)	Commerce/NOICC
Vocational Preparation and Occupations (VPO)	NOICC
NATIONAL SOURCES	
A Classification of Instructional Programs (CIP)	NCES
Guide for Occupational Exploration (GOE)	DOL/ETA
Occupational Outlook Handbook (OOH)	DOL/BLS
Occupational Outlook Quarterly	DOL/BLS
U.S. Census of Population (Industries and Occupations)	Commerce
Occupational Projections and Training Data	DOL/BLS
U.S. Industrial Outlook Handbook	Commerce
BLS Area/Industry Wage Surveys	DOL/BLS
Military Career Guide	DOD

Military Occupational and Training Data	DOD
OES Survey Operations Manual	DOL/BLS
OES Dictionary of Occupations	DOL/BLS

LOCAL SOURCES

State Occupational Employment Statistics I/O Matrix	BES/SOICC
OES Industry/Occupation Employment Projections	BES
Employment Compensation and Wages Data	BES
Monthly LMI Newsletter	BES
Career Information Delivery System (CIDS)	SOICC

OMB.....Office of Management and Budget
DOL/ETA..U.S. Department of Labor, Employment and Training Administration
DOL/BLS..U.S. Department of Commerce, Bureau of the Census
NOICC....National Occupational Information Coordinating Committee
SOICC....State Occupational Information Coordinating Committee
NCES.....National Center for Education Statistics
BES......State Bureau of Employment Security
DOD......U.S. Department of Defense, Manpower, installations and logistics

Nongovernmental Sources

In addition to public agencies, hundreds of private organizations and commercial publishers have developed and disseminate specific career and labor market studies, products, and systems. For example, the U.S. Chamber of Commerce publishes the results of employee benefits studies conducted by the chamber's Survey Research Center. Database information about pension, insurance, vacation, and other employee benefits represents input from 186 companies.

The commercial field produces two classes of products. For example, the following five companies developed models and related data that could be important for apprenticeship planning.

- Chase Econometric Associates. Long-term interindustry forecast analysis of major indicators affecting industrial activity is produced.

- o Data Resources, Inc. State and area econometric forecasting for 50 states and 9 regions is produced.

- o Merrill Lynch Economics Model. Industrial economic information is produced including employment, weekly hours, and total person hours.

- o Wharton Econometric Forecasting Associates, Inc. Detailed annual and industry long-term forecasting for employment, growth rates for employment, and so forth is produced.

- o American Federation of Labor - Congress of Industrial Organizations (AFL-CIO. As a major disseminator of labor market information, the AFL-CIO produces documents like it's "Economic Program for Jobs and Fairness," which is very useful to counselors.

Finally, the commercial "school" publishers have increased dramatically the quality and quantity of print and nonprint career information. Each school or training agency in the country uses materials or programs selected from over 150 such publishers. They are intended to influence youth and adult knowledge of job and training options and opportunities through numerous paper documents, textbooks, and career materials such as, microfiche, film, software, video disc, card-sorts, and light tables. Without question, the private commercial publishing field annually influences the career planning and decision making, including apprenticeships, for many of youth and adults.

Gaps in the System Philosophy and Data Presentation

Given is description of the number of information and dissemination systems available, one is tempted to conclude that they are sufficient. They appear to be complete in the way information about apprentice opportunities and requirements is delivered. Unfortunately, such a conclusion is only partially rect.

The assumption is correct in that there exist numerous national, federal, state, private, and public systems and products. It is incorrect, however, in that apprenticeship training is not fully covered, nor are apprenticeships presented in a logical position within the occupational and training context. In most cases apprenticeship information is not provided to clients.

To elaborate on the void in career and labor market data presentation, accessibility, and client interpretation skills, one needs to examine data recently collected through "Work in America," a national opinion poll (Gallup, 1987).

- Over 50 percent did not know how to use career information.
- Eleven million adults needed assistance in 1986 in selecting, changing, and obtaining a job.
- Some 61 percent did not make a conscious career choice or follow a definite career plan, but 64 percent said they would do so in the future.
- Some 67 percent did not use professional counselors.
- Some 52 percent said not enough emphasis is currently being placed on preparing youth for work in public schools.

The obvious conclusion is that even if apprenticeship training information was properly presented in the school's career information systems, most individuals can't find it, understand it, or know how to use it. Given the fact that it is, in many cases lacking, exacerbates the problem.

Apprenticeship Information Coverage and Position in Existing Systems and Products

The authors selectively examined a number of career information products and systems to answer these questions:

- Is apprenticeship information included, and if so, how complete is it?
- How is the information structured and positioned in the product/system?
- Is the information structured so that it appears during user probes without a specific request for apprenticeship information?

Following are brief descriptions related to these questions for a few (selected) products or systems.

Occupational Outlook Handbook (OOH), 1988-89 Edition

This handbook is the most frequently used career information item in our schools. In a 1981 national survey of career information systems in secondary schools (Chapman and Katz 1981), over 92 percent of all schools had copies for student use.

Apprenticeship information is covered as follows:

1. Introduction. Under the "Training and Other Qualifications", and "Advancement" sections, only the word "apprenticeship" is used in a long list of training options. (page 1)

2. "Where to Go for More Information" sections. Two Department of Labor apprenticeship documents are listed with sufficient information to order. (page 5)

3. Occupational Description Sections. There are 225 occupations described in the book. Occupations where apprenticeships are mentioned are presented within the "Training and Other Qualifications," and "Advancement" sections of the format. Using the sheet-metal worker section as an example (page 345), apprenticeship information receives excellent coverage. How the industry values apprenticeships and apprentice's requirements, tools, and schedules are described. Brief mention also is made in the "Job Outlook" and "Sources of Other Information" sections.

   There is no way to determine how many of the 225 occupational sections describe apprenticeship opportunities without reading each section as there is no special index or coding especially for apprenticeships. This too, of course, presents a problem in using the OOH.

System of Interactive Guidance and Information (SIGI).

SIGI, published by the Educational Testing Service (ETS), is an example of one of the more sophisticated and widely used computerized career information and guidance systems. Systems like SIGI contribute less than the OOH, because they do little to reference and highlight apprenticeships as viable and available options. SIGI has over 220 occupational descriptions that cover 520 different jobs and 1,600 typical job titles.

On the positive side, this system does make some reference to apprenticeships, such as in the file #250 titled "Plumber." Under "Educational Requirements," it is stated that apprenticeship training is advisable. Under "Entry-level Salary," it is hinted that salaries for apprentices are only 40 to 50 percent of a journeyman's salary. "Source of Further Information," basically refers the reader to a national association or a union but does not reference apprenticeships. There is no separate apprenticeship data file or any indexing or purge system for referencing apprenticeships. In other words, one would need to be looking for apprenticeship training information per se in order to find it. This is not, of course, a preferred format.

State Career Information Systems

All states have their own computerized information system (42 states) or some other related form such as microfiche or hardcopy career information systems. After examining data printouts and user manuals for two selected systems, the problem with SIGI is found to be consistent.

The microfiche state system that was examined contains a 2-page format for 254 occupations. There is no way of knowing how many occupations cite apprenticeship information, because there is no index or separate file. Where information exists, using their bricklayer file, for example, the following information is provided:

Related Occupations.....	Bricklayer Apprentice
Education and Training Programs...	Local Bricklayers Union for Apprenticeship Training
Education and Training Needed.....	3 Years Apprenticeship Training
More Information.....	International Masonry Apprenticeship Trust with Address

Finally, the situation is similar to the state system that uses both mainframe and microcomputers. There is no formal or implied strategy of access that would allow a user to review occupations with apprenticeship requirements or opportunities. There is no separate data file on apprenticeship training. A user, therefore, needs to seek information elsewhere in order to understand entry pathways, requirements, standards, courses of study, benefits, and points of contact. Apprenticeship is simply listed as a term referenced to training needed without any other information.

Recommendation

The Bureau of Apprenticeship and Training (BAT) should consider a national effort that collects, organizes, and provides to all public and private managers/developers of career information

systems and products, a complete data file on apprenticeships. Only in this way will information users in schools and elsewhere be introduced to and become fully informed about this training and the journeyman career option. A model that could be followed is the one that the Department of Defense (DOD) has recently used. DOD wanted to ensure that all state systems had a crosswalk between civilian and military jobs and training options. In achieving their goal they (1) contracted to collect and organize all needed information and then, (2) supported training and system update through seed money to build data files and new accessing strategies into existing programs and systems. This approach, applied to career information systems in schools, would guarantee that all future users of career information systems would be directed to complete apprenticeship information without specifically having to ask for it.

The School Counselor's Role as Information Broker and Career Planning Advisor Regarding Apprenticeship Opportunities

A counselor's primary role in schools and other agencies that provide education and guidance is to be prepared with current, complete and understandable career education, training, and job information for use by clients. As the client advocate, the counselor helps individuals select, interpret, and use individually customized information packages for career decision making and planning. They do this directly or through such agents as parents, teachers, librarians, public media, and other significant adults.

In the National Center's ongoing work with the chief state guidance officials and several national professional associations, the following specific counselor roles are identified:

1. Meeting counselee's needs for information. Counselors also must consider a student's needs for information to utilize facts gathered during career choice processes, for example, their values, interests, aptitudes, abilities, decision-making skills, job exploration, job selection, career planning, placement, nontraditional job considerations, and so forth. These factors need to be matched with available career information data. Counselors may need information in the following areas:

   - Occupational
   - Educational
   - Financial
   - Military
   - Human resources
   - Employer/industry
   - Economic information
   - Apprenticeship

2. Career information delivery, organization and management. Counselors ensure that the guidance program provides a set of access options such as individual and group counseling, classroom guidance, mobile vans, resource centers, experiential learning, individualized study, and self-initiated study.

3. Assurance of student outcome achievement. Counselors help ensure that the following major outcomes are achieved when youth use information.

   - Groupings of occupational opportunities
   - Groupings of educational and training opportunities including apprenticeship training
   - Characteristics of specific jobs
   - Occupational and educational exploratory skills
   - Self-need for increased information
   - Clarification of personal values and interests to jobs and educational choice
   - The need for career facts in decision making

4. Assurance of information standards when working with students.

   - Appropriate and honest information associated with employee and employer adjustment factors

   - Realistic information about the varied work environments associated with any given occupational category

- o Current information about attitudes, values, and general sociological factors that exist in employment areas which are different from one's existing community characteristics

- o Realistic comparison data associated with income potential versus spending needs related to varying geographic locales

- o Information about the levels of training needed for both entry and upward mobility position in their occupational field of interest

- o Personal data related to the aptitude, ability, and limitations associated with fields of occupational interest

- o A wide range of information about unions and their trade requirements for entry into organized labor occupational areas including apprenticeships

- o An appreciation of the variety of skill training options available in both the private, union, public, and military establishments

- o An awareness of the federal, state, or employer options available for financial sponsorship for skill improvement, such as, apprenticeships, scholarships, loans, and so forth.

5. Program expectations related to these student outcomes.

- o Understand the range of career opportunities presently available and likely to be available in the future

- o Realize those career options that might be acceptable and personally satisfying

- o Build lifelong skills in seeking and using career information for future decision making and occupational status improvement
- o Understand the educational and training options that are available for immediate and future use

- o Become a more informed, flexible, occupationally mobile individual and become appreciative of the sociological factors that influence labor markets regarding future career planning

- o Appreciate the need for basic academic skills related to realistic requirements of current and future occupational requirements

- Appreciate and access opportunities for vocational education related to the individual's improved interest profile and individual career development plans including apprenticeship training

In summary, the literature suggests that if you want an individual to know something about education, training, and work, the counselor and his/her career information system are most critical sources. They are critical in the sense that no other school staff have the skills or responsibilities to provide this guidance. No school provides this type of information or allows its interpretation and use in the context of individual career planning. Moreover, parents don't have the sources of information and/or skills to help a student interpret or use the information in any systematic way.

Finally, neither information producers nor providers have the individual student in mind. They focus instead on the program or occupation for which they are recruiting. The counselor is alone in the advocacy role.

Recommendations

If the Bureau of Apprenticeship and Training (BAT) wants to improve and increase the degree to which schools have and use apprenticeship training information, it should put the needs of school and agency counselors as a high priority.

Counselors use the information they have, feel comfortable with, and are competent in using. It's possible that today's school counselors have none of this, insofar as apprenticeships are concerned. In order to better ensure that the nation's 60,000

counselors improve their knowledge and information dissemination methods, the following suggestions need to be considered:

- Counselor training institutions need to have training approaches (modules) and a complete set of apprenticeship materials to help them train new counselors entering the field.

- State guidance supervisors need encouragement and training to understand the potential of apprenticeships and understand the gap that currently exists in their state's career information systems. With BAT's help, they could then be encouraged to conduct state and regional training workshops for their school and agency counselors.

- New and complete apprenticeship packets need to be made available to all school/agency counselors including hand-out materials for teachers, parents, employers, and students.

- State level and local counselors need to be invited to participate in state and local apprenticeship councils.

- The counseling community needs to demand new and improved apprenticeship information from its SOICC.

In summary, the nation's practicing counselors, counselor educators, and state guidance leaders need to be trained to value apprenticeships, know what materials to use, and have the training and support materials that are needed before they can begin preparing future workers and reskilling current workers.

Intake and Assessment--Key to Youth Involvement in Apprenticeship Training

Careful and informed career planning and decision making is critical for all persons as they search and explore various training and job options suited to their interests and life goals. Without question, one of the most costly problems in both schools and industry is the number of uninformed persons who select training programs or jobs resulting in changes or terminations.

This is especially true of young adults who seek and enter apprenticeship training programs. Glover (1980) suggests there are two major gaps or barriers to improved placement and quality achievement in apprenticeship training.

Quality Gap

As vocational education is to provide quality candidates for apprenticeship openings, it is suggested that the quality of vocational education graduates applying for such openings is lower then the industry threshold. This may occur as a result of the lack of appropriate early counseling and assessment to help students define their ability to succeed in such programs.

Age Gap

Apprenticeship sponsors look for maturity in their applicants. Training is costly for employers, and they prefer to accept those who will take work seriously and are less likely to drop out. This is one reason why high school seniors are not considered, as compared to current apprentices who have an average age of 23. If this trend continues, counseling and career planning needs to incorporate the benefits of delayed entry planning.

The mechanism that is critical in the student's use of educational and training opportunities is accurate self-knowledge, intelligence about their strengths, and one's purposes. Herr (1985) points out that such self-knowledge must be embedded in their personal confidence, such that raising one's skills or talents constructively will lead to meaningful and desired

outcomes. Achieving improved excellence in apprenticeship training implies setting standards and assessing those processes intended to meet them. Tests represent tools through which educators, students, and employers know whether students are falling short of, meeting, or exceeding those standards. Test results, then, are often instrumental in establishing and raising standards and in matching individuals with appropriate educational or apprenticeship program goals.

Most apprenticeship programs require applicants to have certain aptitudes as demonstrated by passing appropriate validated tests and inventories. Vetter (1986) suggests the following sequence (model) of client data collection that should be considered by schools, unions, and employers as they help decide who is interested and capable of succeeding in the apprenticeship program that the client is interested in (See figure 1).

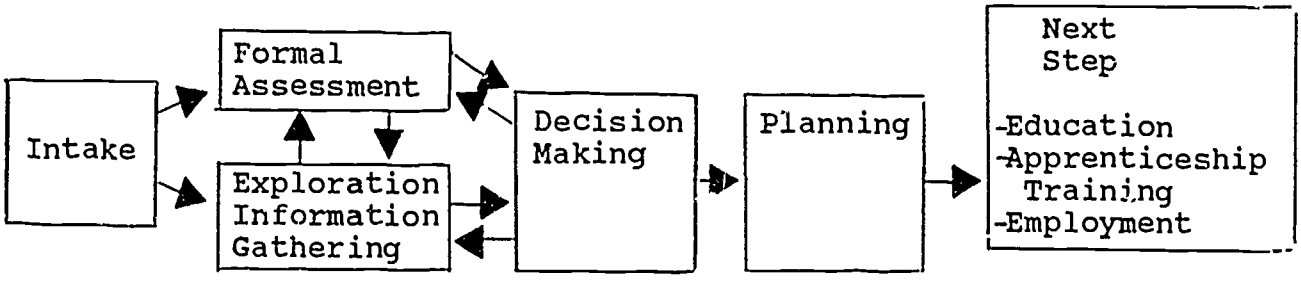

Figure 1. Career Guidance Process Model

Intake

There are typically two purposes for the intake step in the selection of possible apprentices. Included are (1) the process of determining eligibility for, and completing entry into the

program, and (2) the orientation to apprenticeship program, goals and objectives, schedule, and responsibilities of the counselor and the client. The intake interview is a means of obtaining information about individuals and is a foundation for the counseling relationship.

The structure of the intake activity must be predetermined with regard to the content, type, and amount of information required. Documentation and record keeping should be objective, accurate, and thorough. It is important to distinguish between subjective or inferred information and actual observable behaviors.

In the process of determining eligibility for the apprenticeship program, specific abilities typically center around such things as verification and documentation of demographic data for proof of eligibility. This will involve the use of standardized forms that require the acquisition of client background data. Use of these forms will vary with eligibility requirements. Counselors can take this opportunity to get permission for releases of needed information from other agencies or institutions with whom the client has had contact. As well, intake is also the time to consider the appropriateness of the program and possible referral to other agencies.

The intake process also includes an orientation to the apprenticeship program, goals and objectives, schedule, and responsibilities of the client and the counselor. Counselors provide program information to increase understanding and to clear up possible misconceptions. The client will better understand that

the information sought is to be used in the planning process, and the information may be referred to at various points throughout the program to provide direction. Any formal assessment, then, may be viewed as another piece of information that is one part of the counseling process.

In addition to functioning as a registration procedure in which data concerning the client are obtained, need is determined, and types of assistance needed can be selected, intake can also be the time when clients are given the opportunity to discuss problems and gain information about the types of help available. In this way the intake interviewer will generally get more insight into client's situations and will be better prepared to identify the kinds of assistance that may be appropriate.

Formal Assessment

The purpose of assessment is to provide the client and the counselor with an accurate and thorough information base about the client in order to help develop realistic goals. Thorough assessment increases awareness of apprenticeship options and encourages further exploration. Assessment is the process of analyzing and evaluating client strengths and weaknesses. It can involve any topics that enhance or increase self-knowledge. It generally includes the examination of skills and abilities, attitudes, interests, values, and personality.

The format for apprenticeship assessment should be flexible to allow for effective dealing with the interests and needs of all client types. Alternative modes of assessment, therefore, need to

be considered in order to meet client needs. The counselor then introduces a planned continuum of activities and experiences and links these to the career/apprenticeship plans of the client.

In choosing appropriate formal assessment instruments, the apprenticeship program and the client goals must both be considered. It is imperative that counselors or test administrators understand the technical strengths and limitations of the instrument, for example, norms, reliability and validity, context, administration, and scoring. It is also important to take into consideration that many adults have had little or no recent experience with tests and testing procedures and may be apprehensive. Timed tests especially may cause anxiety. Although this should not deter the administration of instruments, it is one factor to take into consideration.

Exploration and Information Gathering

The use of standardized assessment instruments can provide clients with increased options to encourage a wide range of apprenticeship option exploration. Past experiences can be examined to evaluate successes and failures and to identify possible patterns. Clients can also look at skills desired in apprenticed jobs, some of which follow:

- Identify and evaluate previous work experience
- Identify desired work tasks and leisure experience
- Assess family relationships
- Identify career satisfaction variables and specific interest patterns

- o Identify and evaluate occupational interests
- o Relate interests to past experience and compare interests with identified skills
- o Relate interests to potential occupational apprenticeship requirements
- o Identify and evaluate skills developed through previous work experience, leisure learning experience, and formal learning experience
- o Identify and evaluate previously developed functional, technical, and adaptive skills

In addition to exploring past experiences, and both formal and informal assessment information, the exploration phase should include seeking career-related data. Seeking information is an essential part of the career planning process. Clients should be assisted in exploring opportunities and in understanding how these relate to their skills, interests, and desire to enter the apprenticeship program.

Decision Making

The decision-making phase of the model involves the application of information about self and occupational information to a decision-making framework. Decisions are based on what individuals know about themselves and their environments and on what they want. The decision-making process involves increasing the amount of information available in order to increase the possibility and probability of desired outcomes and to decrease risk (undesired outcomes). A general decision-making model includes problem definition, data collection, values clarification, goal setting, identification of alternatives, and planning. A decision-making

model provides a structured, systematic method to assist in determining if apprenticeship training is the correct option to follow. Although use of a career decision-making process does not guarantee success, it does increase the likelihood of apprenticeship program success because it provides a structure for attending to all important variables.

Planning

The planning phase completes the apprenticeship program assessment, exploration, and decision making. Clients are assisted in this phase in translating preferences and goals into action.

An apprenticeship goal-setting component in which clients establish and prioritize goals in terms of achievable and measurable goals is important. The more concretely and specifically stated the plan, the more likely individuals will be to follow through. Counselor involvement may be needed to ensure that goals are set realistically.

In planning, the counselor and client assess skills needed, identify obstacles (such as lack of information or resources, inaccurate information, and maladaptive behaviors), identify education and apprenticeship training opportunities, determine strengths and resources, and outline a specific plan for implementation. ontingency or alternative plans can be considered to aid in increasing the possibility of success. A variety of career planning issues and tasks follow:

- Identify sources of education and/or apprenticeship training

- Relate identified skills to apprenticeship programs for further development
- Identify apprenticeship programs and admissions requirements
- Investigate potential credit for past work experience and previously completed programs
- Evaluate accessibility and feasibility of apprenticeship programs
- Identify and assess financial and personal assistance
- Identify sources of occupational and apprenticeship information
- Identify and assess occupational and apprenticeship opportunities
- Relate identified skills and work experience to specific apprenticeship and related jobs
- Evaluate apprenticeship programs from a need-fulfilling potential perspective
- Relate identified apprenticeship opportunities to occupational choice
- Identify education and/or training needs for specific occupations

Next Steps

Depending on the choices made by the client during the apprenticeship program decision-making and planning stages, the next steps may be one or more of the following:

- Entrance into an apprenticeship training program
- Entrance into an education program, such as GED (General Education Diploma), or a postsecondary occupational program
- Entrance into a job-seeking program
- Entrance into employment

Counselors may be sending clients to non-apprenticeship programs due to assessment data, or they may be providing additional programming for some of the next steps. Alternatively, they may be assisting the client to move to another agency or educational institution to get ready for apprenticeship program entry or other goals that may have been developed.

Using Standardized Tests

Apprenticeship program counselors have a wide variety of standardized tests from which to choose. Most of the commonly used tests fall into one of four categories.

General ability tests. These instruments, which attempt to measure one's overall ability to learn, are also called intelligence, scholastic aptitude, or mental maturity tests. Some are administered individually and can only be given by a certified psychologist; others are given to groups by teachers or counselors. Some commonly used group tests include the California Short Form Test of Mental Maturity, Henmon-Nelson Test of Mental Ability, Otis-Lennon School Ability Test, and the Test of Cognitive Skills.

Achievement tests. Whereas general ability tests estimate how much a student can learn if ideal conditions prevail, achievement tests indicate how much one has learned in specific areas. There are two basic types: survey and diagnostic. Survey tests can be particularly helpful in pointing out group needs and general areas of weakness in an individual student's learning. Examples include the California Achievement Test. Diagnostic

tests focus on an individual's strengths and weaknesses in a particular area. The Stanford Diagnostic Arithmetic Test and the Durrell Analysis of Reading Difficulty are two examples.

Aptitude batteries. Aptitude batteries provide a basis for estimating an individual's ability--with training--to acknowledge a skill in a variety of areas. Commonly used aptitude batteries include the General Aptitude Test Battery, the Differential Aptitude Tests, and the Armed Services Vocational Aptitude Battery.

Interest inventories. Standardized interest inventories help one identify their preferences for particular activities. Suggestions are then made of the occupations or occupational clusters that most closely match one's interests. Some widely used surveys include the Kuder, Ohio Vocational Interest Survey, Strong-Campbell Interest Inventory, Career Assessment Inventory, and the Harrington-O'Shea Career Decision-Making System.

A variety of other instruments are used in many systems. For example, career maturity tests, work values scales, temperament/style inventories, and vocational evaluation systems are available and often are useful supplements in counseling programs.

Recommendations

Today's counselors need to know more about and be better prepared to promote and assist students to examining and entering apprenticeship programs. To achieve this, the following is recommended:

1. Each educational institution should designate a person (counselor) to serve as liaison to the apprenticeship system. The liaison needs to study the apprenticeship system since it is a form of employment and, as such, differs from most other programs they deal with.

   Because each state is different, the liaison should have a customized state file on the apprenticeship program. In this file they should have information on and be aware of the functions of the following:

   - The Bureau of Apprenticeship and Training (BAT)
   - Apprenticeship and Training Representatives (ATRs)
   - State and Territorial Apprenticeship Agencies (SAAs) and Councils (SACs)
   - Apprenticeship Information Centers (AICs)
   - National Joint Apprenticeship Committees (NJACs)
   - Joint Apprenticeship Committees (JACs)

   The liaison should also be aware of federal apprenticeship regulations, several of which are of special importance. The U.S. Department of Labor, 29 Code of Federal Regulations Part 29 (29 CFR Part 29) sets standards that programs must fulfill in order to be registered. A second important regulation prohibits discrimination based on race, religion, national origin, or sex. The regulation requires the adoption of written affirmative action plans that include goals and timetables for increasing the representation of women and minority males in apprenticeship training; it also describes the activities that constitute a "good faith effort" to comply.

2. The apprenticeship liaison should know that the three major goals regarding participants are to attract (1) potential participants; (2) determine their needs, abilities, and aptitudes; and (3) assess fit of potential applicants within the program. This involves a careful matching of the characteristics of targeted groups with the requirements set by employers and joint apprenticeship committees for targeted occupations. The successful mix of program components depends on several factors--for example, addressing the needs of both applicants and apprenticeship sponsors and being sensitive to the problems of these groups; exploring labor market conditions, characteristics of the local industries and trades which the program serves; and considering hiring schedules and procedures.

3. Six specific program elements should be in place in each educational institution. The following is a brief description of each element.

   - Educational services:

     --Remedial classes

     --Classes in English as a second language

     --Tutoring in test taking

   - Orientation and counseling

     --Orientation--should be available for informing persons about opportunities in apprenticeship

     --Counseling--assisting participants in understanding the potential of apprenticeship training

   - Skills development

     --Three approaches should be considered--classroom, on-the-job training, and other hands-on experiences in and out of school.

   - Credit toward apprenticeship completion

     --Consideration should be given to establishing additional rewards for successfully completing a preapprenticeship course.

   - Special service components

     --Consider offering physical conditioning programs. Several preapprenticeship programs contain a physical training component that develop the physical capabilities needed in many skilled occupations.

     --Teach the use of appropriate language in different types of job-related problems.

     --Offer individual and group counseling sessions help participants learn ways to cope with problems.

   - Evaluation is important for it suggests the relative contribution of various services to successful performance of participants in apprenticeship positions.

Evaluative criteria should include placement and retention rates, changes in earnings, program cost effectiveness, and effectiveness of service components.

--Coordinate and promote the use of veterans' benefits for apprenticeship or on-the-job training. They also should be aware that eligible veterans can receive benefits by participating in approved apprenticeship and other on-the-job training.

4. All apprenticeship programs should include the following types of assessment capabilities and concerns:

   - o Personal traits--reliability and honesty
   - o Potential skills--aptitude tests
   - o Acquired skills and experiences--previous employment record, interviews of employers
   - o Social and economic factors--check factors against applicant's interests and aptitude
   - o Leisure activities--helps determine suitability to the trade
   - o Physical condition--certificate of medical fitness and ideas for job accommodations

5. Counselor and vocational education staff renewal training is vital to increased support for invclvement in the apprenticeship program, especially in the intake and assessment phase. The Bureau of Apprenticeship Training should consider training arrangements or self-instructional guidebooks that help counselors play the quality support role discussed in this section.

CHAPTER III. RECOMMENDED ACTIVITIES FOR IMPROVING THE CREDIBILITY, QUALITY, AND EXPANSION OF APPRENTICESHIP TRAINING

The following recommended projects or activities, if supported and carried out, could lead to substantial improvement in current apprenticeship programs. More importantly, however, they will foster the growth, collaborative arrangements, and credibility needed for improving and expanding apprenticeships into the next century. It is assumed that partners in these suggested initiatives will be labor, vocational educators at the secondary and postsecondary levels, and employers. These activities go beyond the specific thrust of this particular study, but have been influenced and amplified by studying the literature and conducting interviews with education leaders, and others in labor, government, and industry.

The project proposals recommended may be placed into five different categories.

1. Information exchange
2. Research
3. Curriculum development
4. Personnel development
5. Career information and assessment

Each category activity is presented in a common format that includes the following:

1. Problem
2. Objectives

3. Procedures

4. Anticipated outcomes/benefits

1. Information Exchanges

Activity 1.1 Annual Conference to Promote Cooperation and Linkage Between Labor and Vocational Education Leaders

Problem

A major problem identified during this study was the need to provide for more effective and more frequent points of contact between labor and vocational education leaders at all levels. There appears to be much distrust and disaffection between the two groups. This could be caused in part because there are misunderstandings that are fostered by the infrequent and poor communication that occurs. Much can be gained by both vocational education and labor if positive and sincere channels of communication can be established and maintained.

Objectives

The objectives of this information exchange would be as follows:

1. To develop channels of open communication between state and national leaders of vocational education and labor
2. To maintain and extend the channels of communication from the national and state levels to the local levels within leadership groups

Procedures

The following procedures would contribute significantly toward the accomplishments of the specified objectives:

1. Conduct an annual 2-day national conference for 100 to 200 high-level vocational education and labor leaders and the U.S. Department of Labor. The conference should be conducted by an organization experienced in working with both vocational education and labor and should be planned with the assistance of an advisory committee with equal representation from both groups including staff from the Bureau of Apprenticeship and Training. The focus of the conference should be the honest exchange of ideas and beliefs with an emphasis on ways that the two groups can cooperate for mutual benefit.

2. Encourage state leadership personnel from both vocational education and labor to conduct similar annual conferences at the state level. The planning and focus of these state conferences can be the same as for the national conferences.

3. Charge persons responsible for conducting the national conference with the responsibility of publishing and disseminating a quarterly newsletter on topics of mutual interest to labor and vocational education personnel. An editorial and advisory board for the newsletter consisting of equal representation from the Department of Labor, organized labor, employers, and vocational education personnel would provide guidance and assistance for the publication.

Outcomes

With the establishment of formalized opportunities to open two-way channels of communication, improved understanding and cooperation between the Department of Labor, labor groups, industry, and vocational education are likely to result at all levels. The improved understanding could open many doors of cooperation for mutual benefit and the improvement of the American vocational education and apprenticeship training systems.

Activity 1.2 State Level Apprenticeship Training Information Exchange for State Guidance Directors, Career Information Delivery System Operators and SOICC Staff.

Problem

When asked during the current study how they are informed concerning apprenticeship training opportunities, standards, requirements, and so forth, most state leaders state that they do not have, nor do they regularly recieve, such information. If future student career and labor market information systems and products are to be improved, state leaders need to be informed on a continuous basis.

Objectives

The objectives of this information exchange would be as follows:

1. To establish a specialized method of collecting and organizing apprenticeship information for the states use with students and educational staff

2. To publish standard data that could be used in all state systems

3. To identify success stories for students that could be published in state newsletters

Procedures

The following suggestions could contribute to accomplishing objectives.

1. Establish a clearinghouse type operation that would continually search, collect, and synthesize information from state agencies, high schools, and postsecondary institutions, organized labor, etc. Focus on youth and adult success stories concerning apprenticeship training,

research reports, teacher materials, curriculum guides, student materials, and new standards.

2. Develop a paper or electronic method of systematically disseminating special topic apprenticeship information for reuse in various state newsletters, magazines, and other publications used to keep educators informed.

3. Publish critical data on apprenticeship information, in formats used by state career information delivery systems, to ensure that their state occupational and training files have complete and current data. This information could also be shared with commercial publishers to achieve the same objective.

4. Assemble and repackage state success stories on contributions apprenticeships have made to female, handicapped, and minority persons. Similar testimonials could be published by state governmental offices, union leaders, and other special interest groups.

Outcomes

Such a clearinghouse operation would assist BAT with systematically collecting current information on a national and state basis by way of customizing information for quick and complete statewide dissemination and use. Such a continual flow of positive information about the apprenticeship program will improve attitudes about it and serve as a basis for new national initiatives, including the entry into nontraditional occupational fields.

Activity 1.3 National Resource Center for Apprenticeship and Training

Problem

The apprenticeship and training programs that produce a skilled work force are important to economic revitalization, energy conservation, and defense preparedness. To continue to ensure the most efficient and effective programs, the latest

training methods, materials, and research must be applied. Many of the nonproprietary materials already are available in the various information systems and resource centers across the nation. What is needed is a "one-stop-shop" service that can identify apprenticeship and training materials from existing information systems and resource centers and make them available to vocational and apprenticeship program coordinators and instructors; government, labor, and industrial personnel; and others who are concerned with employment and training issues. This resource service must be operated by professionals who can receive an information request, understand the underlying need or problem, find the best solution, and provide assistance in applying it.

Objectives

The objectives of the resource center would be as follows:

1. To assist apprenticeship and training personnel to identify and acquire needed materials
2. To encourage the flow and exchange of apprenticeship training information
3. To analyze and synthesize topics for which information is frequently requested
4. To tie the resource center service and the apprenticeship and training personnel together with a toll-free "hot line" and/or electronic mail system

Procedures

The objectives of the resource center would be carried out with the following procedures:

1. Each request for information would be thoroughly researched in such information systems as the Education Resources Information Center, National Technical Information Service, LABORDOC, Vocational Education Program

Improvement File, Vocational Education Curriculum Materials File, Resource and Referral Service, and the library of the National Center for Research in Vocational Education.

2. Awareness of the resource center service and the exchange of new ideas would be facilitated by a quarterly newsletter. This service would explain the services available; describe new training ideas, materials, and services; provide news about apprenticeship and training developments; and solicit materials for possible entry into existing educational databases.

3. Research on significant apprenticeship and training issues and problems would be analyzed and synthesized in a number of annual publications. Selection of the critical topics to be included in those reports would be based upon frequency of requests, current developments in apprenticeship and training-related matters, and recommendations from key persons.

4. Individuals would be able to request services and receive responses via both a toll-free information "hot line" and an electronic mail system, staffed by personnel who have apprenticeship, training, and information services experience.

Outcomes

The outcomes from this activity would include the following:

1. The establishment and operation of a specialized "resource center" that would help those responsible for apprenticeship and training and other interested persons to search existing information systems for program improvement information

2. A newsletter that explains available services; describes new ideas, materials, and methods resulting from research, development, training, and evaluation; and solicits materials to analyze for potential inclusion within existing information systems

3. Publications that analyze and synthesize significant research, training, issues, and problems

4. Use of toll-free "hot line" and an electronic mail system to disseminate ideas for solving research, development, and training problems that involve apprentices and journeymen

2. Research

Activity 2.1 Analysis of Factors Contributing to Cooperation and Linkages between Vocational Education and Labor

Problem

In a small number of states such as Minnesota and Wisconsin, labor and vocational education have a long history of cooperation, mutual respect, and supportive working relationships that appear to benefit both groups greatly. Other states have experienced a lack of cooperation between vocational education or organized labor leaders, resulting in the loss of benefits by both groups. An in-depth analysis of the underlying reasons for close and extensive linkages in some states and the almost total lack of linkage that exists in other states is needed. Such an analysis could reveal useful insights to vocational education and labor personnel who would like to reap the benefits of cooperation that some states have enjoyed for years. The opportunity to develop many different types of linkage exist, but many states still fail to take advantage of them.

Objectives

The objectives of this research study would be as follows:

1. To identify two or more states where vocational education and labor personnel have enjoyed close and cooperative working relationships and identify two or more states where labor and vocational education have not experienced close and cooperative working relationships

2. To conduct an analysis (a) to determine the factors that have prevented positive and mutually beneficial relationships from being developed in some states and (b) to determine the factors that have facilitated strong and mutually beneficial relationships in other states

3. To develop a set of practical guidelines for vocational education and organized labor leaders at the national, state, and local levels to use to facilitate the development of desired linkages and the reduction or elimination of potential barriers to mutually beneficial linkages

Procedures

The following procedures are suggested as means for accomplishing the aforementioned objectives:

1. Review the available literature and contact all 50 state directors of vocational education to identify the 10 states with the highest volume of vocational education and labor linkage activity and the 10 states with the lowest volume of linkage activity.

2. Select two or more states with multiple linkages and two or more states with minimal linkages for analysis.

3. Conduct on-site interviews of vocational education and labor leaders in each of the selected states to determine the factors that serve as barriers and as facilitators to linkage between organized labor and vocational education. Prepare a report of the findings for publication with a strong focus on apprenticeship training.

4. Prepare guidelines for improving linkage between organized labor and vocational education at the local, state, and national levels for improved and expanded apprenticeship training based on the findings from the in-depth analyses.

5. Conduct national- and state-level workshops to disseminate the guidelines and research report to organized labor and vocational education leaders.

Outcomes

The following outcomes are likely to result from the completion of this proposed scope of work:

1. A handbook of practical guidelines for facilitating linkages between organized labor and vocational education would be available to persons wanting to develop new or expand existing apprentice training programs.

2. The main outcome to be obtained would be increased linkages between organized labor and vocational education that will result in improved programs of vocational education and apprenticeship in most states. Examples of the type of mutually beneficial linkages that could be expanded include apprenticeship training, instructor training, retraining the unemployed/displaced worker, upgrading training, course/program evaluations, needs assessment, curriculum development, financial aid, and career counseling. Guidelines based on research should be effective, if properly disseminated and used, in helping leaders of both groups increase their support and understanding of each other which can then be followed by improved vocational education programs through strengthening linkages with organized labor.

Activity 2.2 Survey of Existing Practices and Procedures for Granting Advanced Standing Status to Vocational Students Entering Apprenticeship and for Granting Postsecondary College Credit to Apprentice Trainees

Problem

The contribution made by secondary and postsecondary educational institutions to apprenticeship training is indisputable. Many high schools, vocational schools, technical and community colleges, and universities provide instruction and other services and support to these programs. These contributions include support for preapprenticeship, apprenticeship, and journeyman training. Nevertheless, in many cases, graduates of vocational and technical education programs must enter an apprenticeship program at the same level as trainees who have had no previous formal vocational instruction.

A second problem is the fact that apprentices in many programs receive training that is equivalent to that received by students in regular postsecondary vocational and technical education programs, but they are unable to receive college/postsecondary

credit for their study. Some institutions in various states have established standardized procedures for granting college/ postsecondary credit to apprentices who are participating in approved training programs that lead to journeyman status.

Further need exists for a comprehensive study of how various secondary and postsecondary institutions are cooperating with apprenticeship program instructors and coordinators to grant credit for previous study and to grant dual credit toward both apprenticeship program completion and a postsecondary associate degree. Of particular importance would be the identification and analysis of the most successful programs and recommendations regarding the feasibility of developing an equitable procedure for granting advanced standing or college credit, whenever appropriate, and approved in advance of instruction.

Objectives

The following objectives would provide focus for the proposed scope of work:

1. To identify and analyze the procedures used by apprenticeship programs that are already granting advanced standing to graduates of approved vocational and technical education programs

2. To identify and analyze the procedures used by postsecondary institutions that are already granting academic credit toward an associate degree to apprentices who are enrolled in approved apprenticeship training programs

3. To prepare a report of the findings regarding both types of credit and prepare guidelines (based on the past experience of program implementors) that could be utilized by other vocational education and apprenticeship personnel who desire to establish similar arrangements

4. To publish and disseminate the findings and guidelines to potential government, vocational education, management, and labor users

Procedures

The following procedures would be used to accomplish these objectives:

1. Conduct a study of secondary and postsecondary vocational and technical education programs where graduates entering an apprenticeship program receive advanced standing in the program.

2. Analyze the procedures used by these schools/colleges and apprenticeship programs to establish advanced standing credit, the criteria used for granting such credit, types of documentation required, amount of credit granted, and other issues.

3. Conduct a study of apprenticeship programs and postsecondary institutions where dual credit is awarded for apprenticeship training by the college toward an associate degree and by the trade toward achieving journeyman status.

4. Analyze the procedures used by these colleges and apprenticeship programs to establish the dual credit arrangement, to determine the amount of credit to be awarded, the costs involved, documentation required, and so on.

5. Prepare a report of the findings of both surveys and analyses including recommendations and guidelines that could be used by schools and colleges and apprenticeship program coordinators who wish to establish similar procedures for granting advanced standing and/or dual credit on an equitable and fair basis.

6. Publish and disseminate the findings and guidelines by distributing the report to government, labor, and vocational education personnel and interested others. Also, prepare articles for professional journals and make presentations at appropriate National and state conferences attended by the concerned audiences.

Outcomes

The outcomes of completing this scope of work would be as follows:

1. Development and publication of a comprehensive report on the procedures already being used by some secondary schools and postsecondary institutions and apprenticeship programs to grant advanced standing to vocational and technical education program graduates who are entering an

apprenticeship program. Included in the same report would be a description of the procedures used by some apprenticeship programs in arranging, in advance, with postsecondary colleges for the granting of credit for apprenticeship training toward an associate degree, plus guidelines for others who wish to establish similar arrangements for advanced standing and/or dual credit.

2. The publication and use of the guidelines would result in more equitable and efficient apprenticeship training programs and the granting of more college credit for equivalent training completed through apprenticeship and/or journeyman programs. Because of the equitable credit given, more vocational graduates are likely to be interested in apprenticeship training, and through expanded dual credit arrangements, more apprentices would also be likely to receive college/postsecondary degrees.

3. Curriculum Development

Activity 3.1 Development of Competency-Based Instructional Materials for Training Apprenticeship Coordinators

Problem

Many local joint apprenticeship committees (JACs), and other similarly constructed groups, employ an apprenticeship coordinator to administer their training programs. The JAC coordinator serves as a key person in the planning, implementation, and improvement of apprenticeship and journeyman training programs. The coordinator must work with organized labor, management, and vocational educators in an effective manner. Although most coordinators have a strong desire and willingness to become highly competent in performing their duties, this key manager of training unfortunately receives only minimal assistance in developing essential job competencies.

The development of JAC coordinator competence has become a matter of self-study. Very few training programs exist to help

along these lines, and high-quality raining materials that specifically address their complex tasks and responsibilities are virtually nonexistent.

Objectives

The objectives of this proposed activity would be as follows:

1. To conduct research to identify and verify nationally the competencies important to JAC coordinators
2. To identify existing training materials that could be adopted, adapted, or used as reference materials
3. To prepare competency-based training materials that address each of the verified competencies
4. To publish the training materials and conduct dissemination and train-the-trainer type workshops

Procedures

The following procedures could be used to accomplish these objectives:

1. Conduct an occupational analysis of the JAC coordinator's job to determine the essential tasks that must be performed. A group of 10 to 12 expert JAC coordinators could be assembled for a 2- to 3-day DACUM (Developing A Curriculum) workshop.
2. Develop a Coordinator Task Inventory instrument and submit it to a nationally representative sample of expert coordinators for verification of the tasks identified.
3. Cluster the verified competencies into logical groupings for the development, adaptation, or adoption of appropriate training materials.
4. Conduct a search of the literature to identify (a) existing training materials that address the role of the apprenticeship coordinator, (b) materials that could be adapted for the training of coordinators, and (c) materials that could be used in the development of needed competency-based materials.
5. Develop, adapt, or adopt competency-based training materials that would address each of the verified competencies. The materials would follow a common and easily

understood format and would be developed with consultant input from expert JAC coordinators from several different trade areas. The materials would be field-tested, revised based on the recommendations of the field-test trainers and trainees, and prepared for publication.

6. Contract with a nor profit agency to publish and disseminate the JAC coordinator training materials.

7. Conduct 2-day regional, train-the-trainer type workshops to acquaint JAC coordinators and trainers of coordinators with the nature of the materials and procedures for their effective use. These workshops would focus on the development of a cadre of labor management, and vocational education persons who could conduct additional workshops at the state and local levels.

Outcomes

The primary outcomes of this activity would be as follows:

1. A nationally verified list of JAC coordinator competencies would be available for developing job descriptions, for developing competency-based training materials, and for guiding the development and conduct of training programs for JAC coordinators.

2. Competency-based instruction materials of high quality and with a standardized format would be developed, field-tested, revised, and published for use in JAC coordinator individualized and group training programs.

3. Specifically targeted regional workshops for JAC coordinators and trainers of coordinators would result in at least 10 cadres of labor, management, and vocational education trainers who conduct workshops for other coordinators and trainers of coordinators at the state and local levels.

4. The training of JAC coordinators in each state would result in coordinators who are more competent to perform their challenging duties and responsibilities. This training would serve to strengthen linkages between labor, management, and vocational education as well as to improve and extend apprenticeship and journeyman training programs in many trades.

Activity 3.2 Develop Staff Development Materials on the Implementation of CBE Apprenticeship Training Programs

Problem

Many labor personnel, industry managers, and government officials have emphasized the need to convert existing apprentice and journeyman training programs over to a competency-based education (CBE) approach. The high degree of interest in CBE shown by industry trainers, organized labor educators, and vocational educators is understandable in terms of the demonstrated successes of CBE programs. The CBE approach identifies the competencies needed by the worker and prepares the worker through a combination of theory and practice to perform the essential competencies. Time becomes the variable and learning the constant in CBE.

The radically different nature of CBE versus traditional training programs requires the retraining of most apprentice instructors and program coordinators. Whereas the logical desirability of CBE is obvious, the different teaching and management approaches required are not. In order to implement a successful CBE approach to training apprentices and journeymen, specific instructor and coordinator training materials are needed to prepare those persons for the new roles and responsibilities that they ust assume.

Objectives

The objectives of this proposed activity would be to convert traditional apprentice and journeyman training programs over to a

competency-based education approach by accomplishing the following objectives:

1. To develop a set of staff development training materials specifically designed to help apprentice instructors and Joint Apprenticeship Committee (JAC) coordinators to convert their training programs over to CBE

2. To conduct national and state- or regional-level CBE implementation workshops for apprentice trainers, program coordinators, and other concerned organized labor and management personnel

Procedures

The following procedures could be used to achieve the objectives:

1. Identify and verify the tasks that are important to instructors and program coordinators in CBE apprenticeship programs.

2. Develop targeted, print-based learning packages (modules) and supportive audiovisual media to address each of the verified competencies. These would be developed in competency-based format so as to model the type of materials and instructional procedures used in CBE programs.

3. Field-test the training materials with apprentice instructors and program coordinators to determine their effectiveness and acceptability. Collect field-test data and recommendations for improving the training materials from each trainer and trainee and arrange for final publication.

4. Conduct 2-day workshops on the implementation of competency-based apprenticeship training programs for instructors and program coordinators in as many states as interested and funding will allow. These workshops would also focus on the development of a cadre of trainers in each state or region who would in turn conduct additional workshops at the state and local level for apprenticeship personnel in the various trade areas.

Outcomes

The primary outcomes of this activity would be as follows:

1. A comprehensive set of staff development materials designed specifically for apprentice instructors and program coordinators who desire to implement CBE will be developed, field-tested, revised, and published.

2. A number of specifically targeted workshops on the implementation of competency-based apprenticeship training programs will be conducted for instructors and program coordinators in several trade areas in several states. A cadre of trainers in each state and/or region who could continue the training of other apprenticeship personnel will also be prepared.

3. More CBE training programs for apprentices and journeymen in the various trades will result. This changeover to CBE will create more instructional effectiveness and efficiency.

4. Personnel Development and Training

Activity 4.1 Develop Procedures for and Implement a Model Personnel Exchange Program for Vocational Education and Labor Leaders and Staff

Problem

One of the major findings that has emerged from this study is the acknowledgement that there was a lack of communication and understanding between the Bureau of Apprenticeship and Training, labor, and education. If substantive linkages that can serve to improve the apprenticeship programs are to be developed and maintained, a variety of means must be found on which to establish positive communication and supportive understanding. One approach that could serve to improve greatly communications between these groups, and at the same time contribute to the inservice education of members of these groups, is a staff exchange program.

This type of program could provide opportunities for vocational education leaders at the local, state, and national levels

to become familiar with issues and concerns regarding apprenticeship training and many other aspects of education and training. It would also provide opportunities for organized labor leaders at these same levels to learn more about vocational education curricula, facilities, programs of study, and teaching procedures. Although a few staff exchange programs already exist, there has not been any concerted effort at the national or state level to coordinate or promote such exchanges. A well-developed publication outlining procedures for establishing and operating exchange programs is needed.

Objectives

The objectives of this proposed activity are as follows:

1. To establish a model demonstration staff exchange program for selected leaders of vocational education and labor at the state and national levels

2. To publish two promotional brochures, one oriented toward organized labor personnel and one toward vocational education personnel explaining the reasons for the staff exchange program and the benefits to both parties

3. To publish a handbook on how to establish and maintain successful exchange programs

4. To conduct appropriate dissemination activities to make organized labor and vocational education personnel at the local, state, and national levels aware of the staff exchange opportunities

Procedures

To accomplish the objectives, the following procedures are recommended:

1. Review the literature to determine how other types of staff exchange programs operate that involve vocational educators and labor personnel.

2. Convene a technical panel with equal representation of U.S. Department of Labor, labor groups, and vocational education leaders from the local, state, and national levels to review concerns and issues that need to be addressed when operating staff exchange programs.

3. Make arrangements for a model demonstration staff exchange involving at least three national-level leaders of vocational education and three 3 national-level leaders of labor to spend a minimum of 1 month working in each others settings. Also make arrangements for at least five state-level leaders of vocational education and labor to participate in a similar exchange of at least 1 month each. Each staff exchange participant would write a brief report of his or her experience, the benefits gained, and recommendations for improving the exchange program. These findings would then be summarized in a series of annual reports.

4. Develop two promotional brochures on the benefits and reasons for participating in the proposed staff exchange program. One brochure would be targeted for the labor leader and the other for the vocational education leader.

5. Develop a handbook on staff exchange programs using the input obtained from the literature review, the technical panel, and the demonstration exchange program.

6. Disseminate prepared documents in appropriate ways such as mailings to directors of education of national and international unions, state directors of vocational education, and vocational education personnel development coordinators; presentations to state and national groups of vocational education and labor leaders; and articles in publications--newsletters and journals that are read by members of both labor and vocational education.

7. Disseminate information about the results of the demonstration staff exchange program through articles in newsletters and journals--and through direct mailings of the brief report on the demonstration staff exchange program to key state and national leaders in the Bureau of Apprenticeship Training, labor, and vocational education.

Outcomes

The following outcomes can be expected from the completion of this activity:

1. A handbook on staff exchange programs designed specifically for use by vocational education and labor leaders would be available to persons who want to develop exchange programs.

2. Two promotional brochures describing the benefits of exchange programs from both the labor and education perspectives would be available to persons interested in becoming involved in an exchange program.

3. The publication and dissemination of findings, experiences, and benefits from the demonstration of a model staff exchange program should serve to stimulate the establishment of many staff exchange programs between labor and vocational education at the national, state, and local levels.

4. The yearly participation of hundreds of vocational educators and labor personnel in an exchange program should result establishment of many positive personnel relationships and communication linkages between labor and vocational education. The staff exchange programs would provide numerous opportunities for both vocational education and labor personnel to have input into the improvement of vocational education and training programs, including greater cooperation in apprenticeship training.

Activity 4.2 Training Conference of State Guidance Directors, Directors of State Career Information Delivery Systems, and SOICC Directors

Problem

This study identified the poor status of apprenticeship training information that exists within the State Career and Labor Market Information Systems, products, and counselor training. State leaders are not presently knowledgeable about existing opportunities, the benefits of such training, and how to best present apprenticeship information to students, parents, and

teachers. With improved knowledge about and sensitivity toward apprenticeship training, state information leaders will become receptive to developing and implementing improved access and presentation methods within their existing systems and products.

Objectives

The following objectives of this guidance personnel development effort would help the nation's guidance profession as follows:

1. To organize and manage a National Counselor and Career Information Advisory Task Force to help surface the issues and construct the agenda and methods for a National Conference

2. To conduct a National Conference for Counseling and Guidance and Career Information Agency leadership to instruct them on the goals of Apprenticeship 2000, and the roles that are appropriate for their leadership positions

3. To take the training model and supportive materials and attempt to build a commitment on the part of states to conduct similar conferences in their respective states

Procedures

To accomplish the planning and operation of a national/state conference for counseling and career information specialists the following are recommended:

1. Invite a sample of state guidance supervisors, SOICC directors, directors of State Career Information Systems NOICC, and National Professional Guidance Association leadership to participate as task force consultants.

2. Convene the task force to surface issues that should be covered at a national conference, objectives to be met, and methods that will cause conference success.

3. Prepare invitational list of 75 state guidance leaders; 50 leading counselor educators; 50 SOICC Directors, 50 CIDS directors; 50 large city guidance directors; 100

leading postsecondary student service directors; a variety of employment and training guidance leaders, representation from the departments of Education, Labor, and Defense, leadership from at least 15 national professional associations, and interested educational leaders. The conference is viewed as a cost recovery operation with planning dissemination and publication development funds coming from the Department of Labor.

4. Document all the methods, materials, and arrangements used at national conference and prepare a state-level conference management package for possible replication.

Outcomes

1. A national counseling and career information leadership who is informed, committed to, and ready within their respective roles to assist in supporting and promoting the goals of Apprenticeship 2000.

2. The Bureau of Apprenticeship and Training will have established a formal link with the national/state counseling and career information development leadership which could be used in many ways after the conference.

3. The establishment of a conference management package and state commitments to replicate such a conference so as to inform similar leadership at the state and local levels.

5. Guidance Career Information and Assessment

Activity 5.1 Study of Existing Apprenticeship Training Information and Data Files within Current Microfiche and Microcomputer Career Information Delivery Systems

Problem

This study presents clearly that little attention is given to apprenticeship training within the current states, occupational and education and training data file of the existing career information systems. Additionally, students cannot access available information unless they are knowledgeable about apprenticeship training as an option. A study needs to be conducted of the 50 state systems that would result in acceptable methods to assure

better access and coverage for apprenticeship training in the future.

Objectives

1. To identify the ideal way in which apprenticeship training information should be presented and accessed within microfiche and computer systems

2. To review all existing systems to see which ones use the recommended methods and determine what it would take to improve the quality, quantity, and position of this information

3. To have prepared nationally recommend information and storage/presentation methods for possible state level use

Procedures

To achieve the three project objectives the following procedures are suggestive:

1. Convene a small task force of state/national information producers, disseminators, and users to design a model featuring the best way of presenting apprenticeship information to students.

2. Collect by mail from all 57 SOICCs, information on their systems. Of particular importance would be student materials, accessing methods, data within occupational and training data files, and special apprenticeship files, if available.

3. Use the model design to review each state system that will result in an improvement plan for each state plus inform BAT regarding new technical assistance and data they need to provide the SOICCs.

4. Assist each state in understanding changes recommended and in incorporating new data and methods into their existing structures and methods.

Outcomes

As a result of this national career information system study, BAT will understand both the current condition of apprenticeship

training information available to students and have formulated recommendations for quick state-by-state improvement. When completed BAT will have the confidence that all interested parties have access to public information sources on apprenticeship structured in a way that presents the informa on without specifically being called for by the user.

As a result of this helping relationship between the BAT and the state leaders, there will exist an in-place format system to keep these state systems up to date as changes occur.

Activity 5.2 Study of How Current Intake and Assessment Methods and Tools Promote Apprenticeship Training as an Option

Problem

After careful review of several national documents and commercial texts on test and measurement there appears to be little or no discussion or advice on how various tests and inventories could be used by counselors and teachers to assist in the selection and entry of students into apprenticeship training. All publications assume that the reader knows which instruments are appropriate or required and why. Needed is a special publication that defines and describes the importance of intake and assessment prior to, during, and after apprenticeship training; what to use under what conditions; when to measure; and how to apply assessment knowledge to apprenticeship training entry decision making.

Objectives

The objectives of this proposed project would be as follows:

1. To determine what test data is generally needed for all types of apprenticeship programs

2. To identify specialized tests that could be used as alternatives for adults with special needs (learning disorders)

3. To describe the sequence of student assessment, interpretation and use of data for apprenticeship training decision making by student and apprenticeship agency

4. To provide a compendium of test descriptive data that assists counselors and apprenticeship agencies better understand what to use, why, how, and when

Procedures

The following procedures could be used to accomplish these objectives.

1. Collect from each state and union group information concerned with their perceived needs for student test data, standard requirements for testing and a description of tests they use and why.

2. Collect the host of public and private publishers books on test and measurement and analysis data for apprenticeship use.

3. Conduct an international literature search to determine the apprenticeship training approach to test and measurement.

4. Compile information from objectives 1-3 and develop a specialized "Apprenticeship Program Intake and Assessment" handbook for schools and agency use.

5. Work with professional counselor associations, state supervisors of guidance and guidance leaders within the employment service to provide training on the subject and disseminate the publication.

Outcomes

The primary outcomes of this activity would be as follows:

1. A complete and BAT/Union approved description of the role intake and assessment play in apprenticeship recruitment and what tests are approved for use and under what conditions.

2. Counselors involved with apprenticeship recruitment and program selection would have one approved source to use when helping a client decide on the apprenticeship option and how to prepare for entry and program success.

APPENDIX

EXPLORING VOCATIONAL EDUCATION, COUNSELING, AND INFORMATION PROCESSES

Interview Survey

Introduction

Twenty-one persons, representing guidance, counseling, and career information were interviewed using a standard interview schedule. Data are presented to the right of each question asked by project interviewers. Analysis other than frequency distributions are contained in the body of the report as appropriate.

Footnotes

1 Indicates more than 1 response/person
2 Exceeds 100 percent due to rounding error. Will be listed as 100 percent on subsequent items.
3 "Don't know/not sure" responses treated as missing data and not included in computation
4 Open-ended question

1. Do you believe that the skill level of the American work force is a barrier to our ability to compete in world markets?

2)	Yes	16- 80%
1)	No	4- 20%
9)	Don't know/not sure[3] (1 missing)	
		20-100%

If "No" or "Don't know/not sure," skip to Question 4.

2 How serious a problem would you say it is?

5)	Very serious	14- 82.4
4)	Somewhat serious	2- 11.8
3)	Neither serious nor not serious	0- 0.0
2)	Not a serious problem	1- 5.9
1)	Not a problem at all	0- 0.0
		17-100.1[2]

Why?[4]

1)	Improper preparation	10- 45.5
2)	Poor information	4- 18.2
3)	Student attitudes/problems	3- 13.7
4)	U.S. world position harmed	2- 9.1
5)	Barriers to opportunity	3- 13.7
		22[1]-100.0

3. Who should be most responsible for solving this problem?

1)	Local schools and colleges	10- 40.0
2)	Business and industry	8- 32.0
3)	Labor Unions	0- 0.0
4)	State and local government	3- 12.0
5)	Federal government	4- 16.0
6)	Other	25[1]-100.0
7)	A combination of the above (SPECIFY)	

4. Here is a list of approaches some people believe are effective in training workers to be more productive. Please rank them in order, from most effective to least effective (1-5, respectively).

	Overall Rank
____ On the job training	4
____ Specific training by employers	3
____ Apprenticeship programs	2
____ Vocational-technical education	1
____ Government job training programs	5

Why do you consider your choice to be the most effective?[4]

Criteria

1)	Scope of program/breadth	11- 42.3
2)	Job relevance	10- 38.5
3)	Growth opportunities	5- 19.2
		26[1]-100.0

Now, we would like to ask you a few questions about apprenticeship programs.

5. First, how effective are apprenticeship programs in training workers in your state?

5)	Very effective	6- 37.5
4)	Somewhat effective	4- 25.0
3)	Neither effective nor ineffective	1- 6.3
2)	Somewhat ineffective	4- 25.0
1)	Very ineffective	1- 6.3
		16-100.0

Why are they effective or ineffective?[4]

1)	Unavailability of opportunities	8- 42.1
2)	Lack of information	6- 31.6
3)	High quality of programs	5- 26.3

6. How much visibility do apprenticeship opportunities get in your state with respect to youth needing job training?

1)	Little or no visibility	17- 81.0
2)	Some visibility	3- 14.3
3)	Great visibility	1- 4.8
4)	Don't know/not sure	
		21-100.0

Why?[4]

1)	Lack of promotion/information	13- 46.4
2)	Lack of appropriate opportunities	4- 14.3
3)	Lack of appropriate relationships	11- 39.3
		28[1]-100.0

7. How much visibility do apprenticeship opportunities get in your state with respect to adults needing job training?

3)	Great visibility	0- 0.0
2)	Some visibility	8- 44.4
1)	Little or no visibility	10- 55.6
9)	Don't know/not sure (3)	
		18[3]-100.0

Why?[4]

1)	Lack of promotion/information	4- 18.2
2)	Lack of opportunity	10- 45.5
3)	Lack of appropriate relationships	8- 36.3
		22[1]-100.0

8. How much knowledge would you say that vocational guidance counselors in your state have about apprenticeship opportunities?

1)	Little or no knowledge	13- 65.0
2)	Some knowledge	7- 35.0
3)	A great deal of knowledge	0- 0.0
9)	Don't know/not sure	0- 0.0
		20-100.0

9. What ways are being used to present information about apprenticeship opportunities more effectively to youth?[4]

1)	Expansion of appropriate information	12- 50.0
2)	Information in CIDS	6- 25.0
3)	Speakers/workshops	3- 12.5
4)	Little/nothing	3- 12.5
		24[1]-100.0

To adults?[4]

1)	Expansion of appropriate information	5- 35.7
2)	CIDS	1- 7.1
3)	Speakers/workshops	2- 14.3
4)	Little/nothing	6- 42.3
		14-100.0

10. Does your state utilize your computerized career guidance information system to present information about apprenticeship opportunities?

2)	Yes	16- 84.2
1)	No--Go to Question 13	3- 15.8
9)	Don't know/not sure--Go to Question 13	
		19-100.0

11. How effectively does the career guidance information system present information about apprenticeship opportunities?

1)	Not effective at all	1- 6.7
2)	Somewhat ineffective	3- 20.0
3)	Neither effective nor ineffective	2- 13.3
4)	Somewhat effective	2- 13.3
5)	Very effective	7- 46.7
		15-100.0

Why?[4]

1)	Lack of appropriate information	5- 35.7
2)	User dependent	3- 21.4
3)	Appropriate information/distribution	5- 35.7
4)	Students like it	1- 7.1
		14-100.0

12. What do you think should be done to improve the delivery of information about apprenticeship opportunities on your state's computerized career information system?[4]

1)	Nothing	2- 10.5
2)	Improve user training	8- 42.1
3)	Improve public awareness	0- 0.0
4)	Improve distribution/content	9- 47.4
		19-100.0

13. Besides being available within your computerized Career Information System what other guidance activities distribution and discuss apprenticeship information?

		Yes	No
1)	Group guidance courses	10 (50.0)	10 (50.0)
2)	Classroom discussion activities	10 (50.0)	10 (50.0)
3)	Separate file in Career Resource Center	15 (75.0)	5 (25.0)
4)	Bulletin boards	15 (75.0)	5 (25.0)
5)	Speakers	10 (50.0)	10 (50.0)
6)	Others		
7)	_____		

14. Generally speaking, what do you think should be done to improve the quality of information people in your state receive about apprenticeship opportunities?[4]

1)	Nothing	2- 6.5
2)	Improve public awareness	9- 29.0
3)	Improve information quality	8- 25.8
4)	Improve access to opportunities	6- 19.4
5)	Improve collaboration of stakeholders	6- 19.4
		31[1]-100.0

15. Who is most responsible for improving the quality of apprenticeship information available to people in your state?

1)	Local schools and colleges	3- 8.6
2)	Local and state government	9- 25.7
3)	Federal government	5- 14.3
4)	Labor unions	10 28.6
5)	Business and industry	8- 22.9
		35- 0

16. Some people think it would be a good idea to estab. apprenticeship programs for new and emerging occupa . Would you agree with this approach or not? Would yo

1)	Strongly disagree	0- 0.0
2)	Disagree	0- 0.0
3)	Agree	10- 47.6
4)	Strongly agree	11- 52.4
		21-100.0

17. Some people think that vocational and technical schools and colleges should provide preapprenticeship training for new and emerging occupations. Would you support this idea or not? Would you be:

5)	Very supportive	15- 71.4
4)	Somewhat supportive	6- 28.6
3)	Neither supportive nor unsupportive--- Go to Question 19	0- 0.0

2)	Somewhat unsupportive--Go to Question 19	0- 0.0
1)	Not supportive at all--Go to Question 19	0- 0.0
		21-100.0

18. What do you believe would be most important to do to cause preapprenticeship expansion to happen?[4]

1)	Improve collaboration	12- 44.4
2)	Improve funding/legislation	6- 22.2
3)	Expand apprenticeship opportunities	1- 3.7
4)	Improve dissemination of information	8- 29.6
		27[1]-100.0

19. Do you work with the area, regional, or state apprenticeship board in your state? If "yes," in what way?

0 - No	19- 90.5
1 - Yes	2- 9.5
	21-100.0

20. Is there anything else we should know about training or apprenticeship programs in your state?

No response

21. What is your position?

1)	State director of guidance	17
2)	SOICC director	3
3)	Guidance counselor	1
		21

22. Are you employed by:

1)	Local government	0
2)	State government	20
3)	Federal government	0
4)	Local school district	1
5)	Community college	0
6)	University	0
7)	Labor union	0
8)	Private business and industry	0
		21

23. How long have you worked at your current job?

1-9 years	12
10-20 years	8
21 plus years	1
	21

24. Do you have a degree from a college or university? If "yes," what is your highest degree?

1)	A.A./A.S.	0
2)	B.A./B.S.	1
3)	M.A./M.S.	15
4)	Ph.D., J.D., Ed.D., or equivalent	5
		21

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